THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOL. 21

MARCH
1912

NO. 3

PUBLIC LIBRAR
No.
LUMBUS,

PUBLISHED BY ROGERS & MANSON
EIGHTYFIVE WATER STREET BOSTON MASS.

TRADE MARK

Tapestry Brick

Reg. U.S. Pat. Off.

The Most Artistic and Permanent Building Material in the World

There is only one "Tapestry" Brick. It is made exclusively by Fiske & Co. Inc. Our trade mark "Tapestry" is branded on each brick. It stands for the highest product of our skill and 45 years experience. It protects you against substitution.

"Tapestry" Brick has been used by leading architects on residences, churches, libraries, hospitals, club houses, schools, fraternal buildings, and high grade apartments.

FISKE & COMPANY INC
FACE BRICKS | ESTABLISHED IN 1864
FIRE BRICKS |

BOSTON, 25 Arch St. NEW YORK, Arena Bldg.

NEW YORK 1170 Broadway | BALTIMORE American Building

WASHINGTON Home Life Building

O. W. KETCHAM

Master Builders Exchange
PHILADELPHIA

Front Brick Enameled Brick
Hollow Tile Fireproofing
Roofing Tile

ARCHITECTURAL TERRA COTTA

Works: Crum Lynne, Pa.
Sweet's Index, pages 116-117

GENUINE NEW ENGLAND "HARVARD" BRICKS

FRONT **BRICKS** ENAMELED

ARTISTIC FACE BRICKS
VITRIFIED HOLLOW BUILDING BLOCKS

Carter, Black & Ayers

CENTURIAN BUILDING
1182 Broadway
NEW YORK

PFOTENHAUER-NESBIT CO.

St. James Building, Broadway, Cor. 26th St., New York

IMPERVIOUS FRONT BRICK

In Red, Buff, Gray, Mottled, White, Etc.
Enameled Brick, Roofing Tiles, Paving Clinkers, Etc.
Genuine "KITTANNING" Brick
Genuine "HARVARD" Brick

FUNNY how some Terra Cotta Companies take advantage of our silence on the subject to advertise themselves as the "largest." When several of them do it at the same time it's apt to be confusing.

We think more of the quality of our material and the character of our service than of a little thing like large size, but the *facts* are:

The five plants of the Atlantic Company more than equal the size of the combined plants of any other two companies. The Atlantic is the largest Architectural Terra Cotta Company in the World.

Atlantic
Terra Cotta Company
1170 Broadway, N. Y.

Booklet on request

THE AMERICAN TERRA COTTA AND CERAMIC COMPANY

Architectural Terra Cotta

CHICAGO - ILLINOIS

GRUEBY FAIENCE & TILE CO.

K AND FIRST STS., BOSTON, MASS.

Durable Architectural Faience
for
Exteriors and Interiors

CORRESPONDENCE INVITED

The Hartford Faience Co.

HARTFORD, CONN.

NEW YORK 914 FLATIRON BUILDING | BOSTON OLD SOUTH BUILDING

ARCHITECTURAL FAIENCE
(All Colors)

FAIENCE MANTELS
FAIENCE TILE AND BRICK

Write for our new catalogue.

ROOKWOOD

Architectural Faience

MAT GLAZES IN ALL COLORS
ABSOLUTELY PERMANENT
EXTERIOR AND INTERIOR

THE ROOKWOOD POTTERY CO.

CINCINNATI, OHIO
New York Office - - - 1 Madison Avenue

Brick, Terra Cotta & Tile Co.

M. E. GREGORY, PROPRIETOR

MANUFACTURERS OF

ARCHITECTURAL TERRA COTTA

Works and Main Office: CORNING, N. Y.
NEW YORK - - - - E. H. THOMAS, 1123 Broadway

AGENCIES
All the Principal Cities

Conkling-Armstrong Terra Cotta Co.

Manufacturers of
Architectural Terra Cotta

Works, PHILADELPHIA

OFFICES
Builders' Exchange, PHILADELPHIA
1133 Broadway, NEW YORK

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI — MARCH 1912 — NUMBER 3

PUBLISHED BY

ROGERS & MANSON - - - - Boston, Massachusetts

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892. Copyright, 1912, by ROGERS & MANSON

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba	$5.00 per year
Single Numbers	50 cents
Subscription price, mailed flat to subscribers in Canada	$5.50 per year
To Foreign Countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

	PAGE		PAGE
AGENCIES — CLAY PRODUCTS	II	BRICK ENAMELED	III and IV
ARCHITECTURAL FAIENCE	II	BRICK WATERPROOFING	IV
ARCHITECTURAL TERRA COTTA	II and III	FIREPROOFING	IV
BRICK	III	ROOFING TILE	IV

Advertisements will be printed on cover pages only.

CONTENTS

PLATE ILLUSTRATIONS

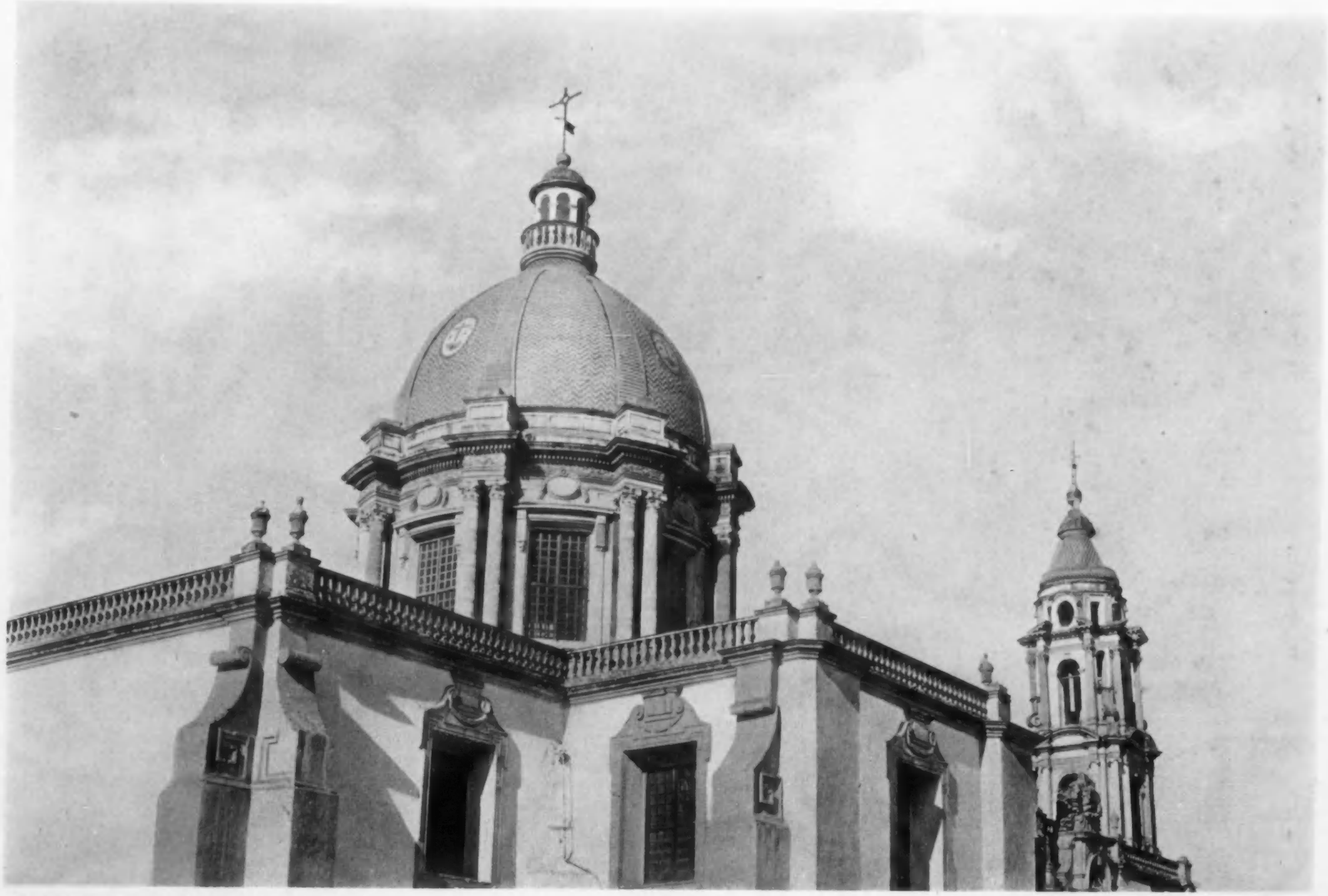
FROM WORK BY

E. R. BOSSANGE AND BUTLER & RODMAN; FRANK CHOUTEAU BROWN; WALTER B. CHAMBERS; HUGHES & BACKOFF; PARKER, THOMAS & RICE; D. EVERETT WAID; GEORGE C. WALES; WARREN & WETMORE.

LETTERPRESS

		PAGE
CHURCH OF NUESTRA SRA. DEL CARMEN, CELAYA, MEXICO		Frontispiece
THE COMPLETE ANGLER OR COMPETITIONS ANCIENT AND MODERN. — III	*Hubert G. Ripley*	63
HEATING AND VENTILATION OF SCHOOLS. — II	*Charles L. Hubbard*	67
HOTEL VANDERBILT, NEW YORK CITY, WARREN & WETMORE, ARCHITECTS		71
COMMEMORATIVE MONUMENTS. — II	*H. Van Buren Magonigle*	75
DISTINGUISHED ARCHITECTURE AS A PRECEDENT. — I	*C. Howard Walker*	79
EDITORIAL COMMENT AND MISCELLANY		83

NOTICE. — The regular mailing date for **THE BRICKBUILDER** is the 25th of the month; for instance, the January number was mailed January 25th. The Post Office Department now sends the larger part of the editions of all publications by freight, and this requires an additional time for transportation of from two to eight days, depending upon the distance of the distribution point from the publication city. The publication date of **THE BRICKBUILDER** will be moved forward gradually so that copies for a given month will reach subscribers even at distant points within that month.



CHURCH OF NUESTRA SRA. DEL
CARMEN, CELAYA, MEX.

THE COMPLETE ANGLER OR COMPETITIONS ANCIENT AND MODERN

BY HUBERT G. RIPLEY.

III.

FROM the mighty and powerful Empire of Khita, and its rich and opulent cities of Carchemich, Kamath, and Kadesh, Greece owes the beginnings of its civilization, and has drawn inspiration from that source, as well as from ancient Egypt.

In Egypt the all powerful sacerdotal class jealously guarded the prerogatives of the architects, outlining their codes of ethics, professional practices and rates of commission, and it must be conceded that they did the job up good. Although embracing all classes and conditions of designers and craftsmen, for thousands of years it was a close corporation. The work was well done and no member of the profession ever thought of overstepping the hard and fast rules laid down for their guidance since the days of Menes.

In Carchemich, about 1323 B.C., we learn from a recently discovered cuneiform inscription that a number of the most eminent Hittite architects who were in the habit of lunching each noon together (where they often lingered as late as three o'clock over their nuts and wine) conceived the idea of an association for mutual benefit, or sort of Gentlemen's Agreement. It seems that a few years previously one of their number had won the Theban traveling scholarship, and had spent two delightful, delirious years en voyage through the great cities of upper, lower, and middle Egypt; from the cataracts of Souan to Canopus, where the rich, black mud of the Delta (the world's primordial slime) deposits its globergerina ooze in the pellucid depths of the blue Mediterranean; now stopping for one mad week in the Quartier Latin of Bubastis, where he joined the Theban Beaux Arts students in their fantastic revels at the annual festival of Basht or Bastît (revels beside which the Quarts Arts Bal Bullier Moulin Rouge Folie Bergeres Torbillion would seem like a Sunday school picnic, although those affairs were always conducted with the utmost decorum), now clambering up over the foliated capitols of the Hypostyle Hall of Karnac, with collapsible rule and steel tape; for he was a serious chap and earnest student, even if, in his subceasive moments, given to frivolity and relaxation, as when gazing through a glass darkly at "the sparkling wines in crystal bowls, that grease the gudgeons of men's souls."

Well, then, this chap (for the moment his name escapes us; to those of an inquiring mind we would state that as written it looked much like the neatly arranged collection of dinky little jiggermarandies laid out on the manicure's table), who had seen considerable of the world and had profited greatly in the enlargement of his ideas and the expansion of his horizon, without bursting any buttons on his vest, and who was still able to wear the same size derby he wore before his foreign trip, — this subject of Khitasir spoke so warmly in favor of the project, and held forth so entertainingly and eloquently on the advantages to be derived by such an association, that it was almost four o'clock before the lunch party broke up.

The editor of the Carchemich *Architectural Review and Building News* (for in Khita we are compelled to admit the architectural press was supported largely by advertisements of manufacturers of building materials) dropped in about three o'clock while the discussion was at its height and bought a round of cigars. His sympathies were enlisted, and he promised to support the new movement with trenchant editorials.

This movement, once started, went on for awhile with leaps and bounds; even a number of the most efficient and skilful draftsmen were admitted to the association as junior members, that is to say, they had the privilege of attending the regular meetings and listening to the chin chin, but were not eligible to any office and had no voting power. The great goddess Nut was the patroness of architects, and a large altar was erected in her honor on which they offered up their unsuccessful competition drawings, unexecuted projects, etc. One of the very first subjects to be considered in their meetings was the regulation of competitions, for it must be conceded by all fair-minded persons who pretend at all to read the cuneiform inscriptions fluently, that architectural ethics among the Hittites were in a very sad state.

An incident which occurred only a short time before, when the building of a Palestra to Booze at Azaz was in contemplation,* shows only too well that their sporting instincts were more strongly developed than their ethical manners. Half a dozen well-known architects of Kadesh,

* *cf. Brugsch Memorabilia Subulata Khititis, vol. CXIX, pp. 53, 1153.*

FIG. VIII.

A corner in the Café of Carchemich where the leading Hittite architects used to foregather in their subceasive moments to swap stories, throw fish, and generally discuss expetible conditions. Restoration by F. Duban.

all clever men and keen on the scent of a job, but good sportsmen, traveled down on the midnight camel train together to look over the ground with the idea of drawing up a program and formulating a set of rules for their guidance in a limited competition, which was to be held for this great modern improvement.

After a pleasant morning spent on the grounds, during which a lot of good-natured joshing was indulged in amongst the architects themselves and the different members of the Booze Palestra Building Committee, all hands adjourned for lunch to the leading Azaz café. As the next caravan back to Kadesh did not leave until 4.40, the architects began shaking dice for the post-prandial drinks and cigars to while away the time, after the Building Committee had gone back to their various offices.

Suddenly, a bright idea struck one of the bunch a biff in the medulla oblongata, and he rose and spake as follows: "Say, fellers, why should each one of us waste time, draftsmen's wages, stenographers' arles, office rent, kilowatts, materials, etc., on this job, when only one of us can annex it? I'd like fine to do it, so would Syrinx, Thoranx, and all the rest of you chaps, but only one of us can have it, and yet the combined expenses of all six in making the competition drawings will somewhat more than equal the total commission. You know these countrymen are not educated up to paying more than five per cent, and the job is not any pipe dream at that, when the architect has to pay his own traveling expenses. Besides, the successful man will have to pay Bunk five hundred simoleons for a near water color perspective on linoleum, just to show these jays how their concinnous old Palestra isn't going to look. I'll tell you what let's do, let's shake for it, horse and horse, best three out of five, one man out each time."

Now, as they all had had cocktails to start on, ale with their lunch, and innumerable amphikypella and skyphoi of arrack with their coffee and cigarettes afterwards, they were pretty well lighted up, "their sallow cheeks incarnadine," overflowing with good spirits and love for their fellow men, and with one accord they hailed the proposition with shouts of joy, just as, a few centuries later, the Greeks under Odysseus hailed the first sun-glint on the wavelets of the sea.

History does not tell us the result of this memorable sporting event; on this point we have searched in vain, cuneiform inscription after cuneiform inscription; the daughters of Mnemosyne are dumb regarding it and we can but vainly conjecture its outcome and incident details. We do know, however, that of all the exquisite and beautiful Palestræ that antiquity has given us, that of Booze is the least interesting and worthy. There is a perfunctory look about it, an unstudied grace and lack of charm, qualities that would undoubtedly have been evident had the job gone in competition.

Before the Hittites were able, through the medium of their architectural societies, to standardize and regulate the practice of their architectural competitions, to get right down to the shiny brass tacks of accuracy, precision, and

FIG. IX.

Angle of the γυμνασια in the Palestra of Booze at Azaz as restored by M. Escalier. It is to be noted that in spite of the fact that the funds at the disposal of the Building Committee did not permit of carrying out the entire building in masonry as originally planned and shown on the competition drawings (a situation that sometimes arises even now in this advanced and enlightened age), yet see with what matchless grace and superlative charm this difficulty has been conquered.

exactitude such as obtained in the earlier civilizations, their empire came to an untimely end. This was a great pity, for in spite of the many lacunæ that exist, the glimpses we are able to observe here and there of their culture, vigor, and exuberant spirits proclaim them a most sympathetic race. Indeed, from them the Greeks learned to practise art as the pursuit and the production of the ideally beautiful, and the slogan "Art for Art's Sake" is derived direct from ancient Khita.

Not that we would unbend for a minute in our attitude regarding the ancient Egyptians, or swerve one hair's breadth from our firm allegiance to the underlying principles which governed Egyptian art; still one must admit the charm, the ambrosial allure, the intoxicating fragor of drosomell and cecubum that pervades even the most ephemeral productions of the Hellenic mind. The Egyptian "loved beauty as found in nature, his spirit demanded such beauty in his home and his surroundings. The lotus blossomed on the handle of his spoon, and his wine sparkled in the deep blue calyx of the same flower; the muscular limb of the ox in carved ivory upheld the couch upon which he slept; the ceiling over his head was a starry heaven resting upon palm trunks, each crowned with its graceful tuft of drooping foliage; or papyrus-stems rose from the floor to support the azure roof upon their swaying blossoms; doves and butterflies drifted across his indoor sky; his floors were frescoed with the opulent green of rich marsh-grasses, with fish gliding among their roots, where the wild ox tossed his head at the birds twittering on the swaying grass-tops, as they strove in vain to drive away the stealthy weasel creeping up to plunder their nests. Everywhere the objects of everyday life, in the homes of the rich, showed unconscious beauty of line and fine balance of proportion, while the beauty of nature and the outdoor life, which spoke to the beholder in the decoration on every hand, lent a certain distinction even to the most commonplace objects. The Egyptian thus sought to beautify and to make beautiful all objects of utility, but all such objects served some practical use. He was not inclined to make a beautiful thing solely for its beauty — the practical dominated."*

The peevish and carping critic may ask what in thunder has all this to do with competitions, and we reply, let him carp and peeve all he wants to, for unless a thorough understanding is possessed of the primary and essential rudiments, the test borings as one might say, all carefully recorded, checked and totted up, the most painstaking and accurately planned superstructure falls to the ground with a dull sickening thud before even the workmen have finished laying the tar and gravel roof with asphalt pouring (into which, while hot, clean white beach gravel shall be imbedded).

It was from the Egyptians that the Greeks learned the use of the colonnade, thus solving "the fundamental problem of great architecture." In a great variety of ways was the colonnade used, and the many examples testify to a number of distinct and beautiful styles, all executed with exquisite and refined taste and great mechanical skill. What would competitions nowadays be without the colonnade? We pause for a reply. The great competitions of six thousand years ago were won on the colonnade just as

* *Breasted, Hist. Egypt, p. 102.*

were the competitions of last year, and presumably next year, and, we dare say, six thousand years hence. Every once in a while, for a longer or shorter period, architects seem to forget all about the colonnade, and the arch is put through various stunts, or flat unbroken wall surfaces hold their short-lived sway, or maybe great hulking cornices shut out the glad sunshine which strives in vain to pierce the deep canyons of our city streets. Then some brilliant genius "discovers" the colonnade again and immediately everybody is hot after them.

The Greeks were past masters of the colonnade and could make them sit up and beg, and lie down and roll over, and would calmly reproduce practically the same peristyle in building after building without knocking wood. They also knew all about arches and domes and even condescended to show the Romans how to do them up to the Queen's taste, still they did not care much for them themselves, and while some of the minor Greek architects, like Zenothemis and Laches, frequently indicated arches and domes in their competition drawings they never got higher than second or third place, and had accumulated a choice and exotic collection of "*vestes*" and "*fours*." Indeed, Zenothemis became awfully discouraged about his office, his practice dwindled down to a mere nothing, and he was up against it hard to make a living. He took up writing instead and in time developed quite a style and did very well, they say. Laches was more fortunate, however, and hearing that there was to be a big competition for the finishing of the Colossus of Rhodes, he wrote a very smooth and carefully worded letter to the chairman of the building committee (who, by the way, used to be stuck on Laches' kid sister and never quite got over being dippy about her), got invited into the competition, and, as there was no special opportunity to use arches or domes in a colossal statue, won first prize and actually completed the work begun by Chares.

Laches was tickled pink over the outcome of this the first competition he had ever won, and hastily sending messengers to a number of his fellow competitors, he invited them to join him in an informal dinner in celebration of the event. Now a little dinner among the old Greek architects was something of an occasion in a quiet sort of a way and deserves passing mention.

Among those present were Heliodorus, whose treatise on tombs is still recognized as the last word on that subject, Callicrates, the miniature sculptor, who carved ivory ants and other insects so small they could scarcely be seen, but who thought for a change he would like to try his hand on something big, Androbius the painter, a great friend of Laches, Apollodorus, the elder, grandfather of the architect of the same name who built Trajan's bridge across the Danube, Euthycrates the sculptor, and several others of lesser note. At that date elaborate and stupendous banquets were not in vogue and the meal was simple, choice, and deliciously cooked. Fish, the great brain food, was the *piece de resistance* of the dinner, preceded by thinly sliced sections of smoked sausages, pickled anchovies, and oysters. The celebrated Copaic eels were then passed around and washed down with generous drafts of Chian wine.

The symposium which followed this particular dinner was chiefly important in that the discussion devoloped a strong sympathetic feeling among all those present for ideally conducted competitions, and while there were some heartburnings and a slight undercurrent of envy among certain of the unsuccessful competitors, on the whole this little dinner did a lot to promote good feeling and a generous spirit of friendly emulation among the profession at large. While the Greek architects as a body for a number of generations had worked in harmony with each other, and not one whisper had ever been raised against their ethics during the great epoch of Hellenic Art, this was in great measure due to the fact that the public at large was highly organized and educated in the purest esthetic principles.

Without this community of interests, no art or profession can be on a healthy, firm, and lasting basis, while with it we may hope to see architecture take her rightful place in that fair sisterhood of sciences that forms the radiomatrix of human endeavor.

FIG. X.

Unsuccessful design for the Colossus of Rhodes by Ephialtes of Cos, a visionary architect with strong modern tendencies. One can readily see how inferior his idea was to the statue as actually carried out, which is too well known to need illustration.

The Heating and Ventilation of Schools.—II.

CHARLES L. HUBBARD.

WHILE much of the heating and ventilating apparatus for a large school building is the same as for a church or hall of equal importance, the arrangement is different and the methods of computation are varied somewhat for convenient use. The first step in the design of a system of this kind is to determine the air volume. Although the State laws require only 30 cubic feet per pupil per hour, it is usually best to proportion the apparatus so that 50 cubic feet may be supplied in large grammar and high schools. It is an easy matter to cut this down in very cold weather, and 50 cubic feet per pupil will not prove too much in mild or heavy weather, at which time the added expense will not be a large item. This applies especially to class rooms, teachers' rooms, offices, etc. For basement play-rooms, assembly halls, etc., which are not occupied continuously for any great length of time, except on special occasions, a smaller air volume will suffice. The supply to play-rooms, and to others where the number of occupants is variable, is usually based upon a certain number of changes of the entire contents per hour, which under ordinary conditions may be taken as four to six. In assembly halls an air supply of 20 to 25 cubic feet per occupant per minute should be provided for. If the exact seating capacity has not been determined upon at the time the flues are worked out, it will be sufficiently accurate to count upon one occupant to each 15 square feet of floor space, which allows for aisles, platform, etc. Having determined the volume of air to be supplied, the next step is to provide a suitable intake and to consider the advisability of a filter or washer. If the building is located in an open space and is surrounded by a lawn of fair dimensions, the air may usually be taken in through basement windows of the proper size, without any special provision for filtering or washing.

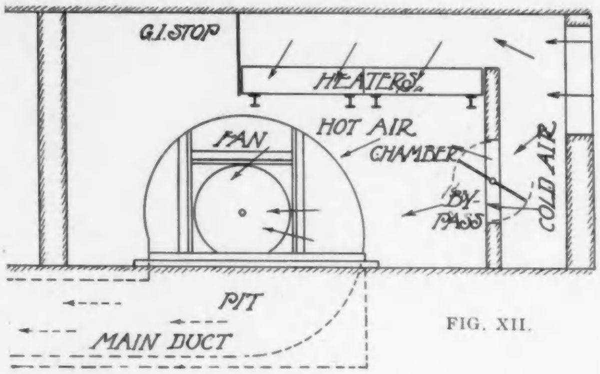


FIG. XII.

In the case of city schools, taking air directly from paved or macadamized streets, the intake should be at a sufficient elevation to avoid surface dirt, and if the atmosphere is likely to contain soot in any quantity, a filter or washer should also be provided. Dry filters may answer the purpose if made of sufficient area and cleaned at frequent intervals, but the wet filter or washer is much to be preferred on account of its greater efficiency and the ease of keeping it in good condition. In addition to this, it may be made to serve as a humidifier, and also has a certain cooling capacity, which is often of considerable value during the hot days of June and September. If a dry filter is used, the overall surface for the passage of air should be such that the velocity will not exceed about 80 feet per minute.

The centrifugal or steel plate fan is best adapted to this class of work on account of operating at a higher pressure than the disk or propeller fan. The best results are obtained when the casing has inlets in both sides and the fan is placed in a room of such size that the air may freely enter both inlets. A table of capacities and speeds of centrifugal fans has already been given in a previous article, but for convenience this will be repeated, with the addition of a fourth column giving the horse-power of engine or motor for driving the fan at the given speed.

TABLE I.

Diameter of Fan.	Revolutions per Minute.	Cubic Feet of Air Delivered.	Horse-power to Drive Fan.
3 ft.	300	4,200	2
4 ft.	250	8,200	4
5 ft.	225	14,000	6
6 ft.	200	20,800	10
7 ft.	175	27,600	14
8 ft.	150	36,400	20
9 ft.	125	43,200	25
10 ft.	100	48,000	28

The casings of fans are made in different forms to suit various conditions. That shown in Fig. XII has a three-quarter housing with bottom horizontal discharge. This type is especially adapted to cases where underground ducts are used, also to low basements, and where the form of heater shown in Fig. XII is used.

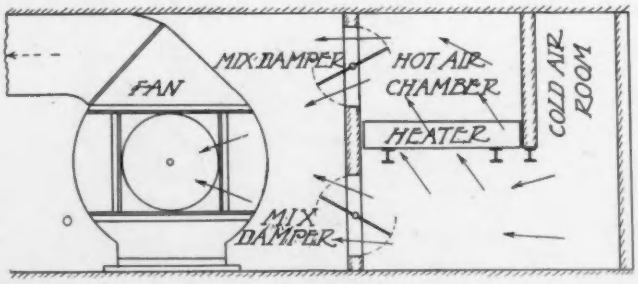


FIG. XIII.

Three-quarter housing fans are also made for discharging the air at the top at different angles. A full housed fan, with upangular discharge, is shown in Fig. XIII. This form is commonly used where the distributing ducts are carried at the ceiling.

Fans of the size employed in this class of work require a solid foundation of brick or concrete, extending from 12 to 20 inches below the basement floor, depending upon their size.

Fans for schoolhouse ventilation are commonly driven by steam engines on account of the greater economy. The power required is comparatively small, and if the exhaust

steam is condensed in the heating coil, the cost of operation may be practically neglected. Some of the large city schools are equipped with their own lighting plant, in which case it is usually more convenient to operate all ventilating fans by electric motors, and if the exhaust from the engines is used for heating, it will probably be no more expensive, as the electrical loss in transmission and conversion will be largely offset by the higher mechanical efficiency of the engine.

Both belted and direct-connected engines are used for fan driving. In either case great care must be taken to eliminate all noises, else they will be carried to the rooms above through the air-ways. When electric motors are used it is best to employ the direct current, if possible, as this makes it practicable to use a slow-speed motor directly connected to the fan shaft, and also allows of a considerable speed variation without excessive loss of power. The size of the cold-air inlet is based on a velocity of 800 to 1,000 feet per minute; the higher velocity being allowed when the inlet windows open directly into the cold-air room. The area of the distributing ducts is also based on the velocity of air-flow through them. For the main trunk lines near the fan a velocity of 1,000 to 1,200 feet per minute may be allowed, which should be reduced to 700 or 800 feet, where the smaller branches connect with the uptake flues. The distributing ducts are carried both underground and at the basement ceiling, the former arrangement being employed when the basement rooms are used as class rooms or for similar purposes, and it is desirable to keep the ceilings clear on account of the appearance.

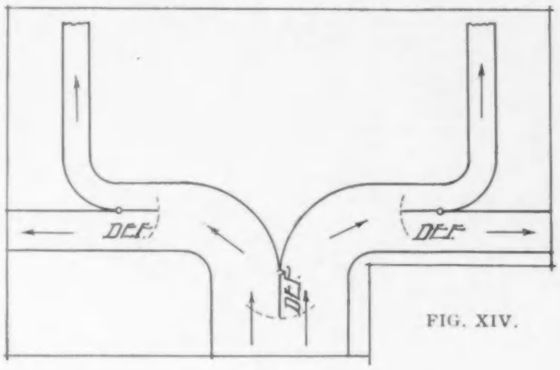


FIG. XIV.

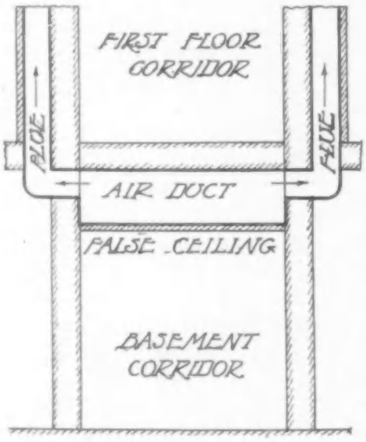


FIG. XV.

Underground ducts are now commonly constructed entirely of concrete, although brick side walls are sometimes used.

They should be made with smooth interior and the branches should be given easy bends where they connect with the mains. Overhead ducts are usually of galvanized iron, except where the upper parts of corridors are utilized for trunk lines by the use of false ceilings. The sizes of mains and branches should be proportioned according to the assumed velocity and the volume of air to be carried. In addition to this, adjustable deflectors should be placed at the junction of all ducts, as shown in Fig. XIV for carefully proportioning the air-flow to all parts of the system.

A method often employed to advantage is shown in Fig. XV, where the main trunk lines are formed by using a false ceiling in the upper part of the basement corridors. Plastered walls and ceiling may form the duct, without other lining, provided the plaster is on brick or wire lathing.

The supply uptakes may be based on a velocity of 600 to 700 feet per minute, the higher velocity being for flues of large size. This calls for approximately 3½ square feet area for a standard class room, which has been found to work well in practice. The inlets to the rooms should be of such size that the velocity will not exceed 400 feet per minute over the gross area, and galvanized iron deflectors should be used to spread the air as it enters the rooms, thus preventing unpleasant drafts. The general arrangement of the flues may be the same as shown for gravity heating, except they will, of course, be duplicated many times, depending upon the size of the building. When the corridor ducts are used, as in Fig. XV, the flues are carried up along the corridor walls to the rooms above. This arrangement will work very well, provided the vent flues are placed along the same wall. The flues in large buildings of the type under consideration are more commonly of galvanized iron, as they require less room and are easier to construct than when of brick.

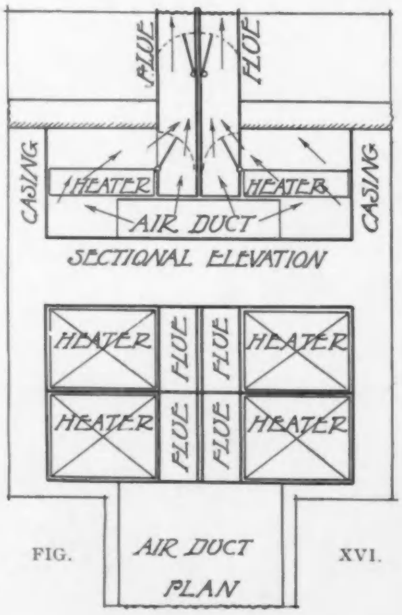


FIG. XVI.

Two general types of main or primary heaters are used at the fan for warming the entering air for ventilating purposes. These are made up of pin radiator sections, and of wrought-iron pipes respectively. Fig. XII shows a common form of cast-iron heater and the method of drawing air through it. It is supported from 2 to 3 feet from the ceiling, with a brick wall and by-pass damper at one side and a galvanized iron stop at the other. The general path of the air from the inlet windows to the fan is indicated by the arrows. Another arrangement for a cast-iron heater is shown in Fig. XIII. In this case the air is drawn upward through the heater instead of downward, and temperature regulation is secured by means of a double mixing-damper as shown. The pipe heaters commonly used consist of vertical 1-inch wrought-iron pipes

screwed into cast-iron bases, and connected at the tops to secure a proper circulation of steam through them. A heater used in this way for raising the temperature of air from 0° to 70° or 75° will easily have an efficiency of 1,500 heat units per square foot of surface per hour. This calls for approximately 60 square feet of radiating surface in the main heater for each 1,000 cubic feet of air per minute to be supplied for ventilation.

There are several different combinations in use for heating and ventilating a building of this kind. The conditions are evidently different from a church or hall because it consists of a large number of comparatively small rooms with varying exposures instead of a single large one. This makes it necessary to keep the ventilating system separate from the heating and to provide a special radiator for each room to replace the heat lost by leakage and transmission. In some cases this is accomplished by placing indirect or secondary heaters in the air-ways leading to each room, and in others by the use of direct radiators and coils in the rooms themselves. The double-duct system, so called, is sometimes used, but not so much as formerly. This consists of primary and secondary heaters at the fan of sufficient capacity to provide for the whole building. The air is heated to about 60° or 65° by passing through the primary heater, and a portion, from two-fifths to one-half, is heated to a considerably higher temperature by means of the secondary heater. Air at these two temperatures is carried to the bases of the flues in separate ducts, and there mixed in such proportions as to give the required temperatures in the different rooms. Fig. XVI shows a common method of arranging a group of four flues, with their secondary heaters. A plan is given at the bottom of the cut and a sectional elevation at the top. The air is discharged into a common chamber beneath the four heaters, from which it finds its way upward to the flues as indicated by the arrows. The right proportion to each flue is governed by adjusting dampers as shown. Temperature regulation is secured by means of mixing-dampers at the heaters, operated from the rooms above.

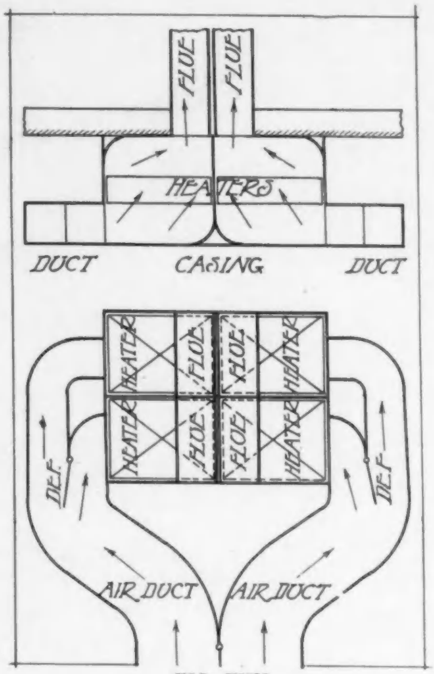


FIG. XVII.

Another arrangement is shown in Fig. XVII, in which the mixing-dampers are omitted and temperature regulation secured by means of pneumatic steam valves upon the radiators, the same being operated automatically by thermostats placed in the rooms. The ends of the heaters are placed directly beneath the bottoms of the flues, and the air volume to each is regulated by deflectors in the supply ducts, as shown in plan at the bottom of the cut. In practice the duct work would be more compact than indicated, it being spread out here in order to illustrate the principle to be followed. Another plan sometimes resorted to in buildings which are not too extended is shown in Fig. XVIII. In this case all of the secondary heaters are placed in a room connecting with the fan discharge, and called a plenum chamber. From here a separate duct is carried from each heater to its respective room. Temperature regulation is secured either by means of a mixing-damper, as shown in the sectional elevation at the bottom of the cut, or by the use of pneumatic valves as already described.

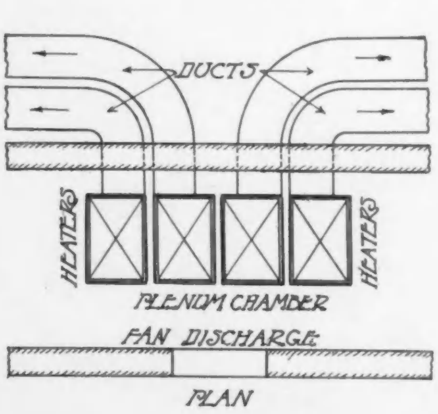


FIG. XVIII.

The advantage of this arrangement is that all of the heaters are located together in a room where they are easily accessible for inspection and repairs. On the other hand, the construction is more expensive on account of the separate ducts. The indirect or secondary heaters used in the way described may be proportioned by allowing 1 square foot of radiating surface for each 20 square feet of wall, and the same amount for each 5 square feet of glass. This is for rooms with a southerly exposure; for a northerly exposure, increase the result thirty per cent. The best form of direct radiation for class rooms is the circulation coil, usually of 1¼-inch pipe, placed along the outer wall beneath the windows. This distributes the heat where needed and is better than concentrating the heat at one or two points, as is done when cast-iron radiators are used. For the smaller rooms, sectional or wall radiators may be used, according to the amount of surface required. Basement rooms are usually warmed by overhead coils of 1¼-inch pipe, on account of keeping them well above the water-line in the boilers or the seal in the returns when a pump and receiver are used.

Direct coils in buildings of average construction may be proportioned on a basis of 1 square foot of radiating surface for each 10 square feet of wall, and the same amount for each 4 square feet of glass. For northerly rooms increase this thirty per cent. Cast-iron radiators are not so efficient as wall coils, and the ratios 1 to 8 for wall,

and 1 to 3 for glass should be used for southerly rooms, with an increase for northerly exposures as above stated. Foot-warmers and corridor warming may be the same as for gravity heating, except the number should be increased according to the size of the building. A large high school should have from four to six foot-warmers of 100 to 125 square feet of indirect radiating surface each. The boiler horse-power may be found by multiplying the square feet of radiation in the main heater at the fan by 1,500; the secondary heaters by 400; direct pipe coils by 300; cast-iron radiators by 250; adding the results, and dividing by 30,000. This may be expressed in a formula, as follows:

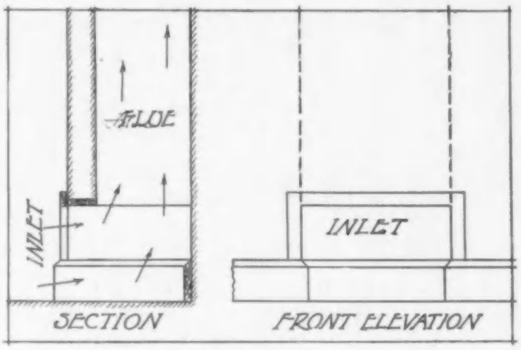


FIG. XIX.

$$\text{H.-P.} = \frac{(M \times 1{,}500) + (S \times 400) + (C \times 300) + (R \times 250)}{30{,}000}$$

in which,

H.-P. = horse-power of boilers.
M = square feet of surface in main heater.
S = ,, ,, ,, ,, ,, secondary heaters.
C = ,, ,, ,, ,, ,, direct pipe coils.
R = ,, ,, ,, ,, ,, ,, cast-iron radiators.

Horizontal tubular boilers are used in this class of work more than any other, although water-tube boilers of the power type are employed in very large buildings, especially where a lighting plant is included in the equipment.

The vent outlets from the rooms are usually covered with a metal grille or register face, and always when the flue is connected with rooms on different floors. When separate flues are used for each room, starting from the floor level, the arrangement shown in Fig. XIX is very desirable. In this case no grilles are used, the baseboard is carried around the bottom of the flue, and the floor extended to the back side as indicated in the section. This makes the accumulation of dirt impossible, as the bottom of the flue is cleaned every time the floor of the room is swept. Vent flues without grilles are commonly connected with one or more large chambers in the attic by means of horizontal ducts as shown in Fig. XX. In arrangements of this kind air-checks should be provided to prevent back-drafts into the rooms, especially at night when the fan is not in operation. The checks are made up of cloth flaps strung on light rods and wired to wire screens. When individual brick flues are used, the air-checks may be placed back of the grilles at the room outlets. Main outboard vent shafts starting at the attic level should be provided with a water-tight pan at the bottom having a drain connection with the sewer as indicated in Fig. XX. Dampers should also be placed in the shaft near the top for night closing, or at such other times as ventilation is not required.

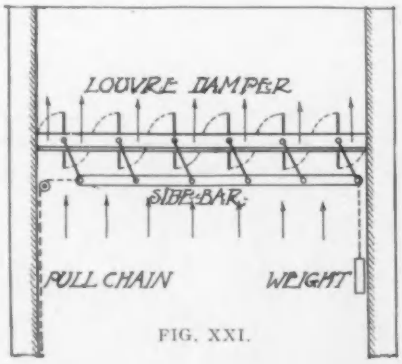


FIG. XXI.

The type of damper will depend upon its size. For small and medium flues the common "butterfly" damper pivoted at the center is generally used. For larger sizes the damper may be made in two parts as in Fig. XX.

For the largest flues the louvre damper gives the best satisfaction. This is shown in Fig. XXI, and consists of a number of sections pivoted to angle-iron cross pieces at the sides of the flue.

The pivot of each section is attached to a "side bar" by means of a bell crank, so that a single movement of this bar will operate all of the sections. The damper shown in cut is closed by the action of a weight and opened by means of a pull chain.

One of the best methods of ventilating the main toilets is to connect the local fixture vents with closed chambers at the back of the closets and urinals, and these in turn with heated flues extending to the top of the building.

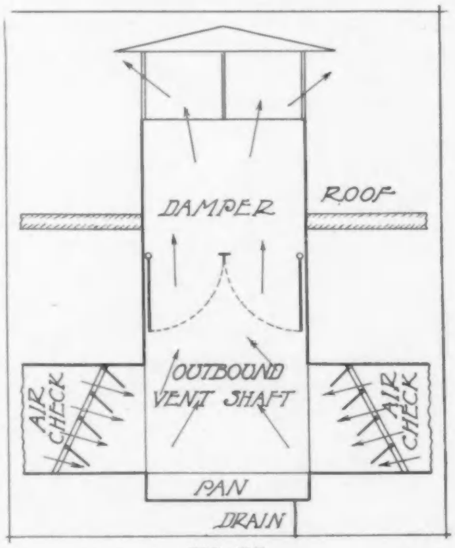


FIG. XX.

The boiler stack may be used for heating the flue during the heating season, but it is well to provide an electric fan, on a by-pass, for use in summer and early fall when the boilers are not in use.

Chemical hoods in large buildings are best ventilated by means of a fan. The connecting ducts are usually of glazed tile and the fan blades should be of copper or the whole construction coated with some non-corrosive material. Buildings of the type under consideration should always be provided with a system of automatic temperature control. The main heater should be divided into valved sections for rough hand regulation, with one section, or a by-pass damper, controlled automatically by a hot-air thermostat in the main air-way beyond the fan. Secondary heaters may be either provided with pneumatic valves or mixing dampers, controlled by thermostats in the rooms with which they connect. Direct radiation in the rooms is provided with pneumatic valves operated in a similar manner.

Hotel Vanderbilt, New York.

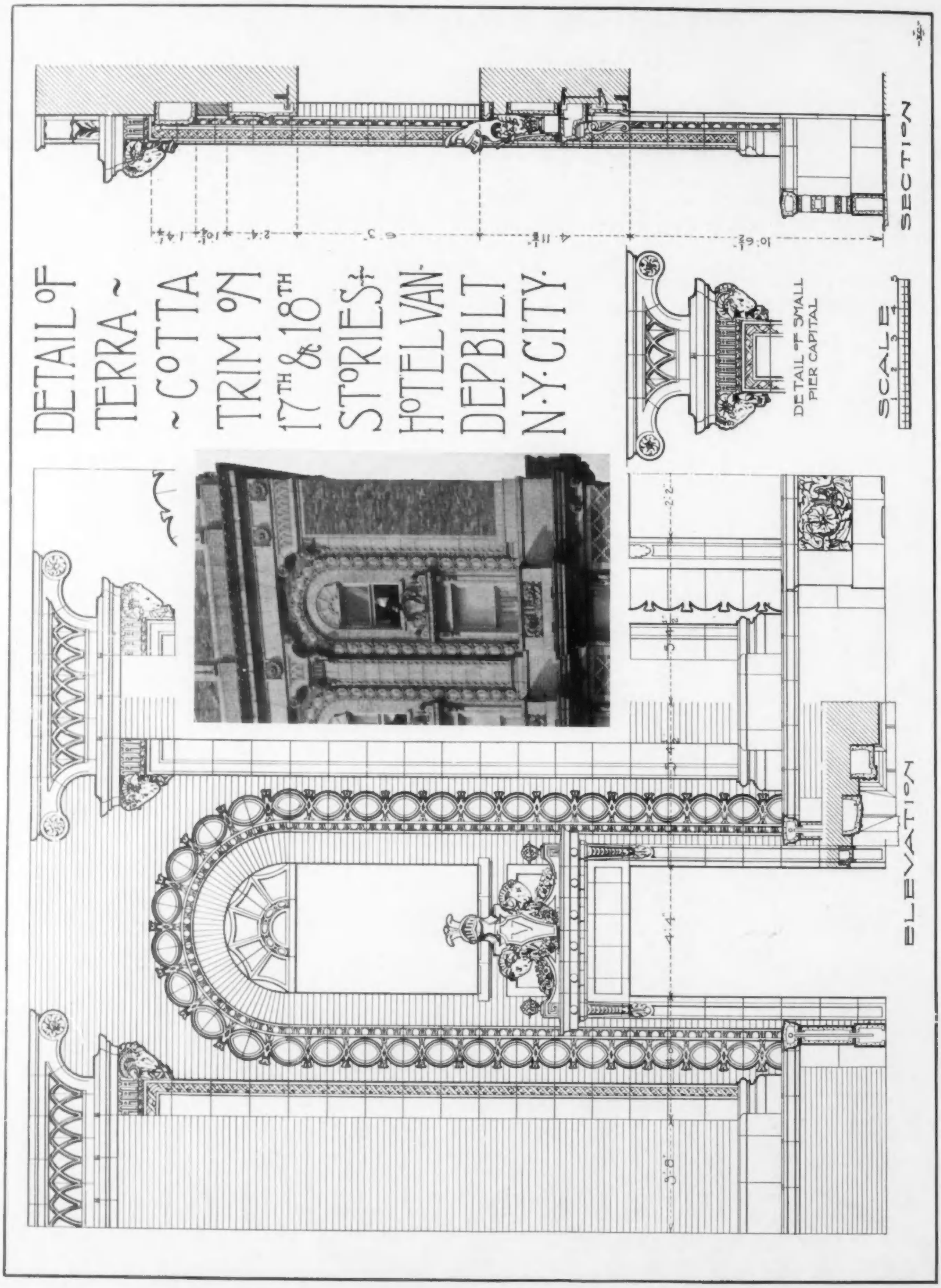
WARREN & WETMORE, ARCHITECTS.

PERHAPS more than any other semi-public building in New York does this remarkable hotel stand for modernity in the realm of architecture. The word modernity expresses it exactly in the light of the modern spirit which requires of our buildings a feeling of lightness, cheerfulness, and brightness, and which looks askance at those which oppress by virtue of their seriousness and heaviness.

The prominence in this city of Great Towers to this last evidence of the skilful handling of a big problem is due perhaps more than a little to the pleasing manner in which the architects have used everyday material. So adroitly and skilfully has this been accomplished that the question of price or of stern economy does not in any way appear to the lay mind. Yet that it has received no little study is evident to the professional brethren.

Perhaps the most stimulating accent to this interesting building is the skyline, the coronet, as it were, upon a smiling face which appears at night bravely with electric lights as jewels and which is equally important by day. Of course the material used is terra cotta, glazed, — so adaptable for anchoring to the steel frame, modeled in relief, at times high and again low, with the drawing forced a little by the introduction of a darker tone to the ground. This coronet is worthy of considerable study and invites thought. It is of a very light buff shade. It is not enough to say that it is Oriental in spirit, that much of the detail and composition is doubtless due to the enthusiasm of the Moors whose conceptions of classical ideals are to-day to be seen in Renaissance Spain and the northern portion of Italy, because into this composition a whole host of other things appear. Look for instance at the way in which the windows are arranged, at the relation between the ornament of the bands and the brickwork, which at times is of buff; examine — and it is easy to do it even from the sidewalk — the relation between the enriched borders and the broad bands or breathing-spaces, so-called, that divide up and compensate for the lack of projection and heavy shadows, which too frequently are found in the upper parts of our buildings. It is many years since the world saw just this particular form of outline, this naive presentation of the head and shoulders of a figure crowning a pilaster. Examine — and it will pay any one to do so — the excellent drawing and balance of the enrichment to the window-heads, of the pilasters and their caps and of the balconies; noting how the color of the main walling is used to force at times the outline and suggest shadow and emphasis. These windows are grouped together sympathetically so that they count as an arcade, extending round the entire building; indeed in a way as much study has apparently been given to the rear as to the front of the building, the main differences being more of detail than of mass, for of course some simplification has been entailed on the ground of cost. The arching-over between the arcadings, uniting the wings, is skilful in the extreme, and while the detail is small it is very distinct. The ornament is buff upon gray ground, which is bound to tell even in a dull day and at considerable distance.

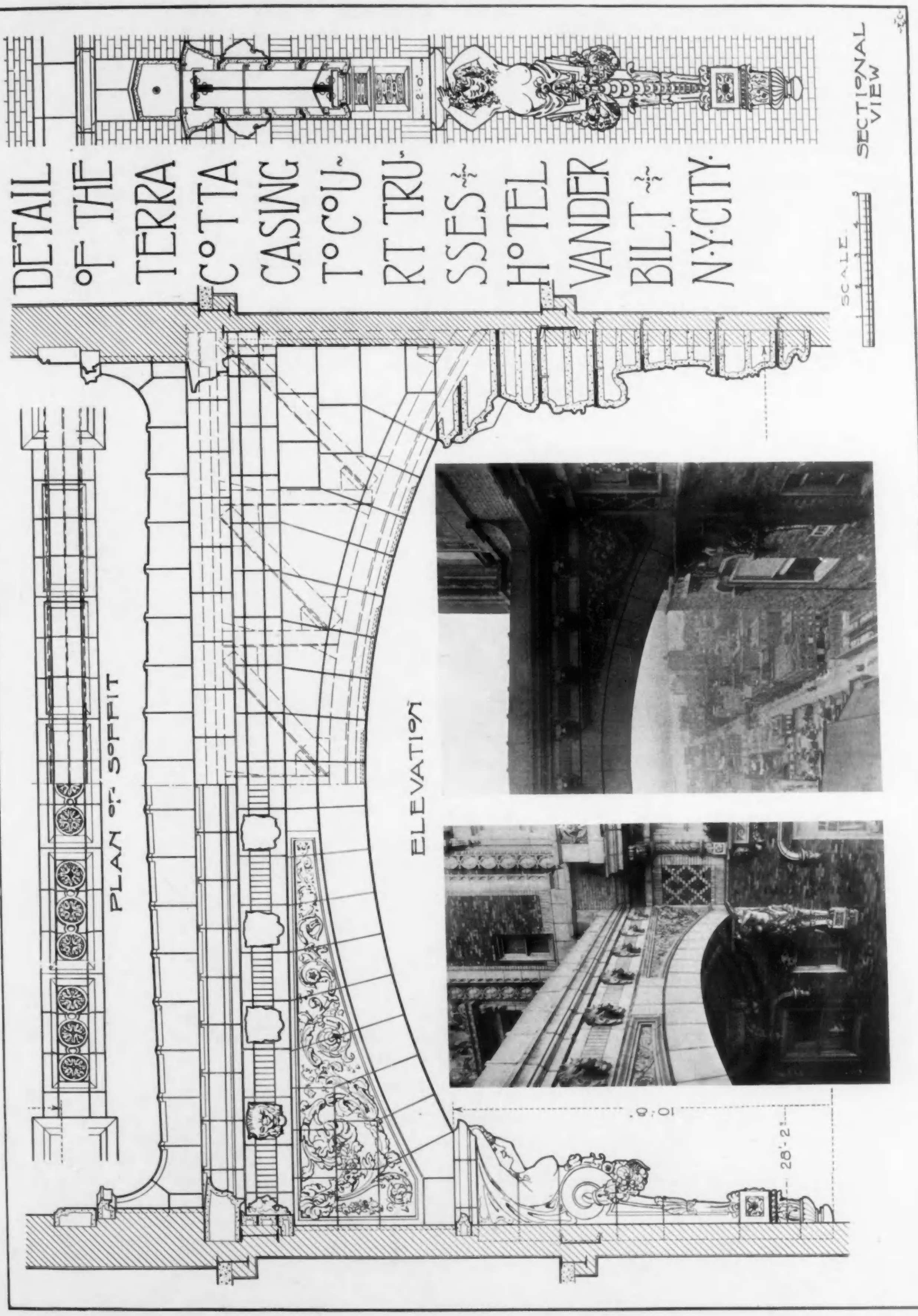
Of the main walling, it is surely not enough to describe it as of brick coated gray in tone with gray mortar, because when the sun shines upon it and its semi-transparent humanizing tone makes it in a way resemble more the rich plume of the grape before it is handled, so rich is the color that we are tempted to feel that the architects have changed their palette every few feet. For instance, in the laying of this brick much skill and ingenuity has gone. The rear wallings to the courts have headers which bear upon their surface a light tone, and form,



Terra Cotta Details.

HOTEL VANDERBILT, NEW YORK CITY.

Warren & Wetmore, Architects.



HOTEL VANDERBILT, NEW YORK CITY.

Warren & Wetmore, Architects.

Terra Cotta Details.

as it were, lighter accents to compensate for the shadows which are there most of the day. These headers of gray appear in unexpected places, at the outlining of the main pilasters springing from the granite base, round the fanlike motifs of the main window borders, and round the small medallions which, doubtless, are prompted more or

PANEL BETWEEN WINDOWS AT 6TH FLOOR.

less by the refining modeling of the Adams Brothers and their school. These headers with their light gray tone also accent and compensate for the lack of projection to the pilasters, and they bring, as it were, a sort of halfway contrasting tone to the terra cotta itself, showing a naive comradeship of material in a way that is very pleasing. Every visitor to the hotel is compelled to examine the window-heads in the lower story. The detail invites; it is of a scale unusual in buildings of this importance and magnitude, but so well have the broad spaces been studied that while the detail is small in itself it gains dignity and importance because it maintains a certain definite well-determined tone. It is not frittered away; it is what might be termed a big idea facetiously detailed so that its very inches interest. This is the type of work which made the conceptions of the Georgian period in England so very welcome.

HERMES FIGURE
AT TOP OF BUILDING.

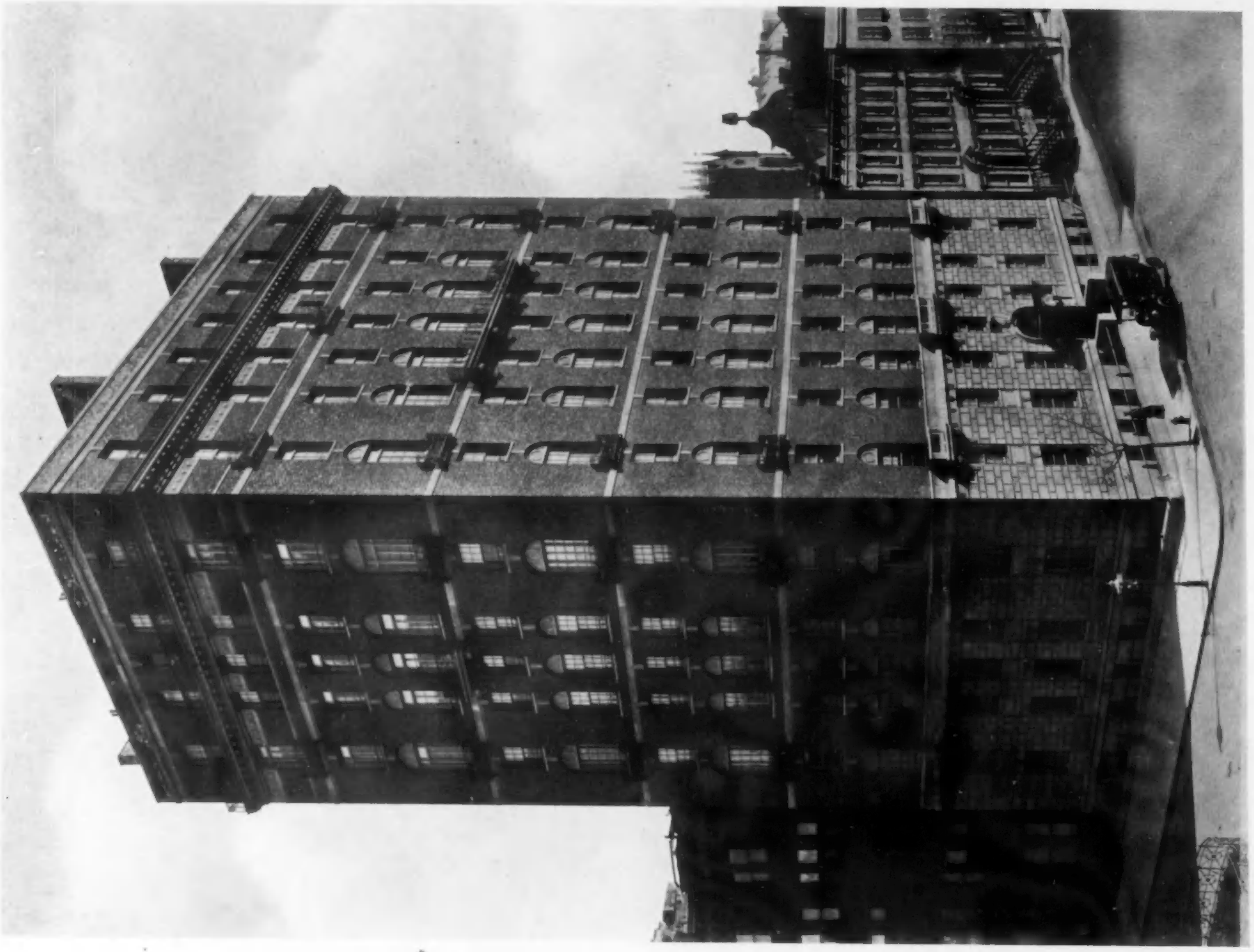
The main wall is not straight, but it curves slightly, or, to use a technical term, it appears to batter, having two offsets in its total height. This is secured by the use of bricks on edge moulded to an ogee outline. Here the architects have evidently concerned themselves with a fundamental point: how to add interest to a tall building by slightly sloping the outline so that it falls away towards the top. This is wise. The cornice and entablature to the lower section shows very well how responsive the terra cotta is to a subtle outline. Note, for instance, the cove with its enrichment in two tones of buff with a gray ground, the way in which the bosses and rosettes are accented and the flatness of the caps to the pilasters, and the subtlety of the arabesque panels which form a band between them. Note again how light all this ornament appears, and yet how big it is in conception. The frieze or entablature is almost devoid of ornament or accent or projection. It owes its interest to a change of texture and to a subtlety of glaze and contrast to color of brickwork. Can anything be more delightful than the small circular medallions which are as smooth as a cameo, as idealistic and yet as permanent as though cut from a shell?

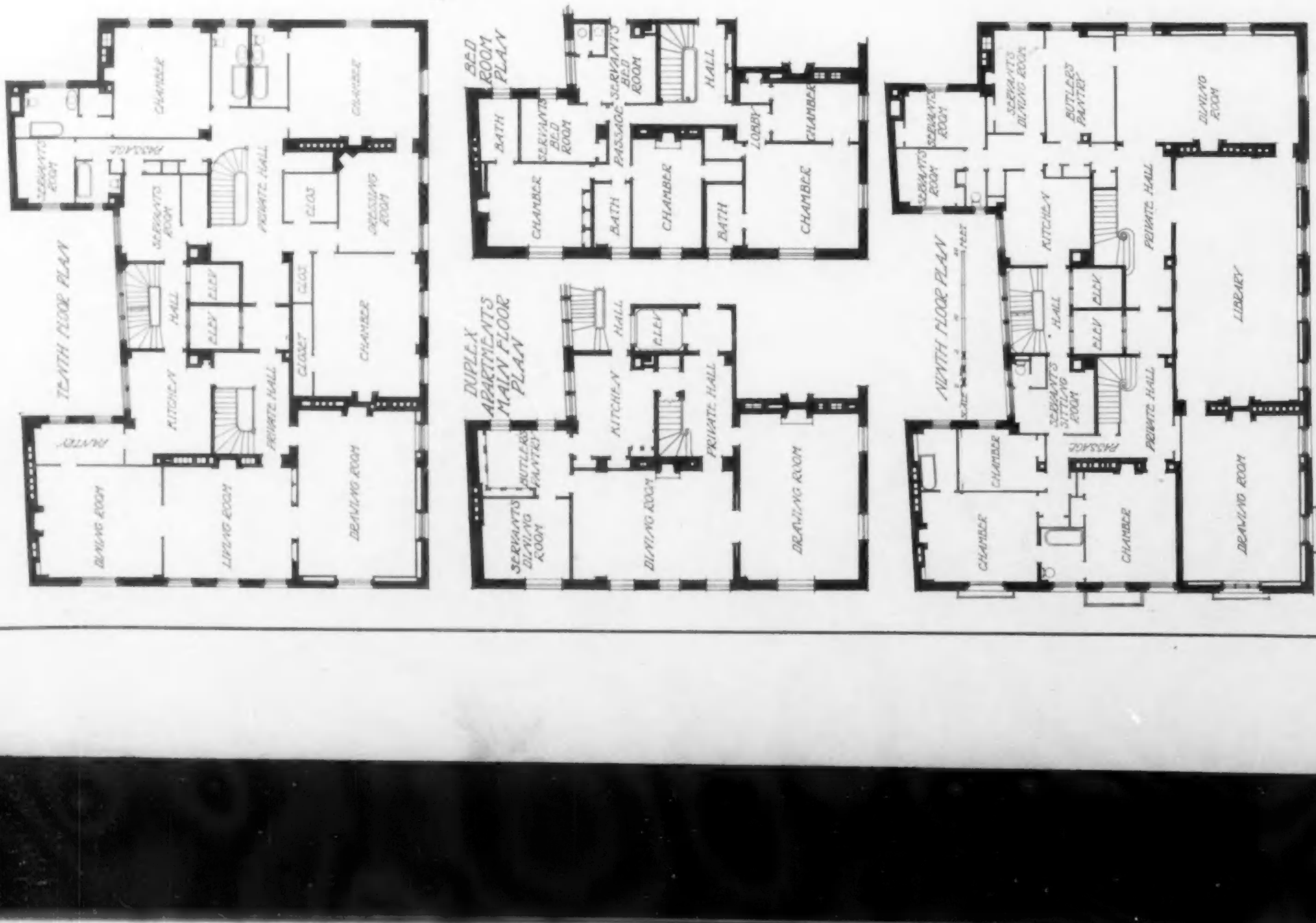
DETAIL
AT 19TH STORY.

There are a whole host of things that persuade the writer to name, the unusual size and detail of the marquee, which spans the sidewalk and shelters the visitor to the front entrance. This again is delightfully free from any ornament; the ironwork counts as a skeleton rib and yet panels the glass surface admirably. Of the inside, the first thing the visitor notices is the spirit of cheerfulness which pervades the whole of the lower floor, which by the way is some two hundred feet long, free of any belittling wallings, the idea of the building being maintained throughout; that the walls are but strong piers well placed, well studied, and existing only where necessity demands. This lower flooring is arched, and the arches are flat, elliptic, springing from the piers without cap or moulding of any kind.

BALCONY DETAIL AT 20TH STORY.

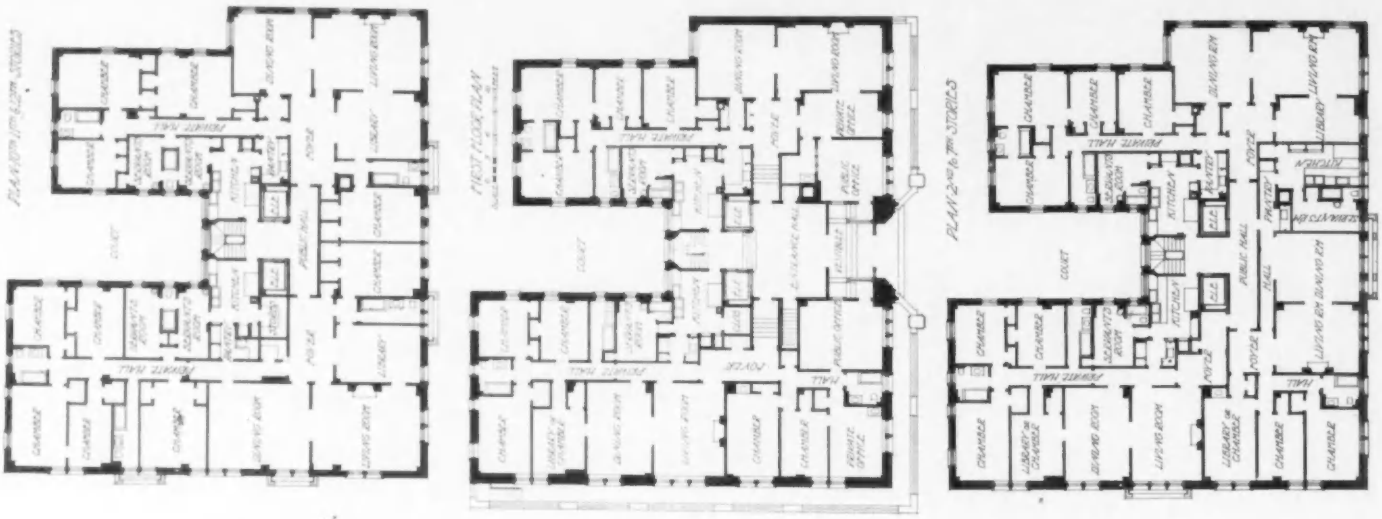
The hotel in its entirety is a pleasing example of the artistic and practical qualities of architectural terra cotta.





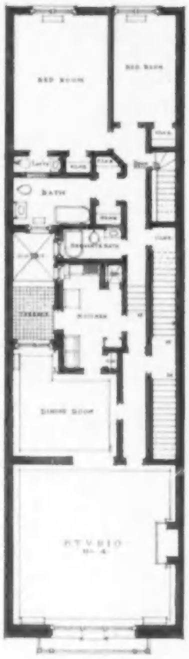
APARTMENT HOUSE, 563 PARK AVE., NEW YORK CITY.

WALTER B. CHAMBERS, ARCHITECT.

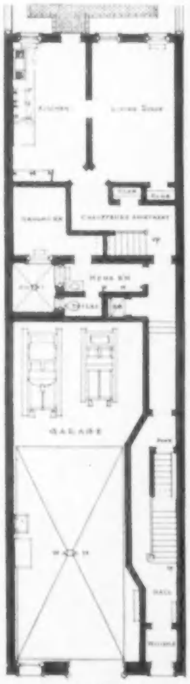


APARTMENT HOUSE, EIGHTY-SECOND ST. AND WEST END AVE., NEW YORK CITY.

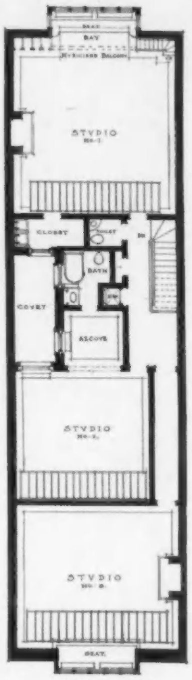
D. EVERETT WAID, ARCHITECT.



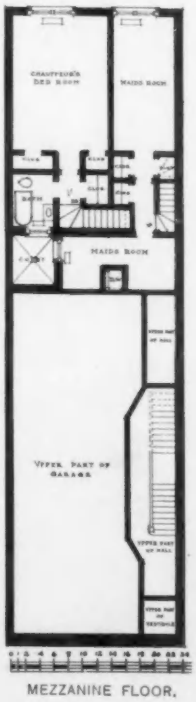
SECOND FLOOR.



FIRST FLOOR.



THIRD FLOOR.

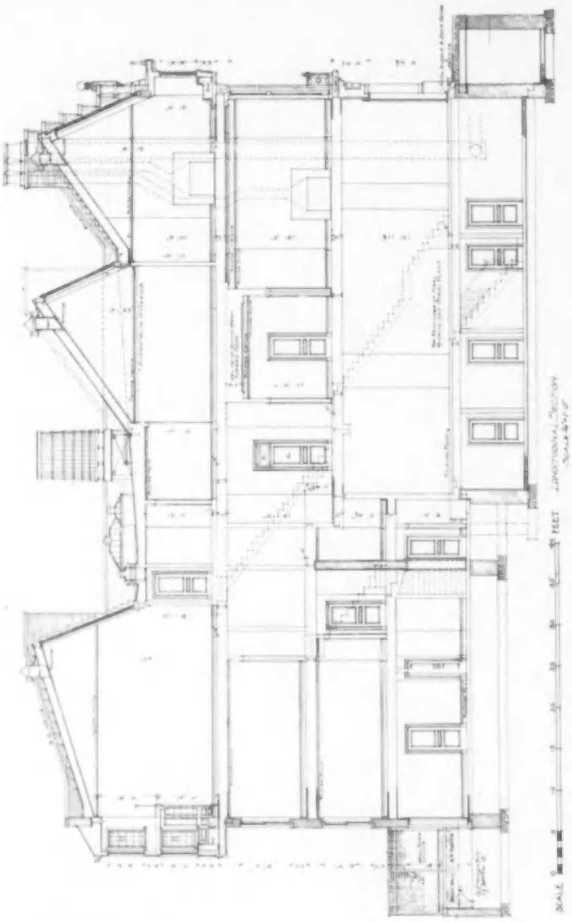


MEZZANINE FLOOR.

THE VER MEER STUDIOS, 111 E. 66TH ST, NEW YORK CITY.

E R BOSSANGE AND BUTLER & RODMAN, ASSOCIATED, ARCHITECTS

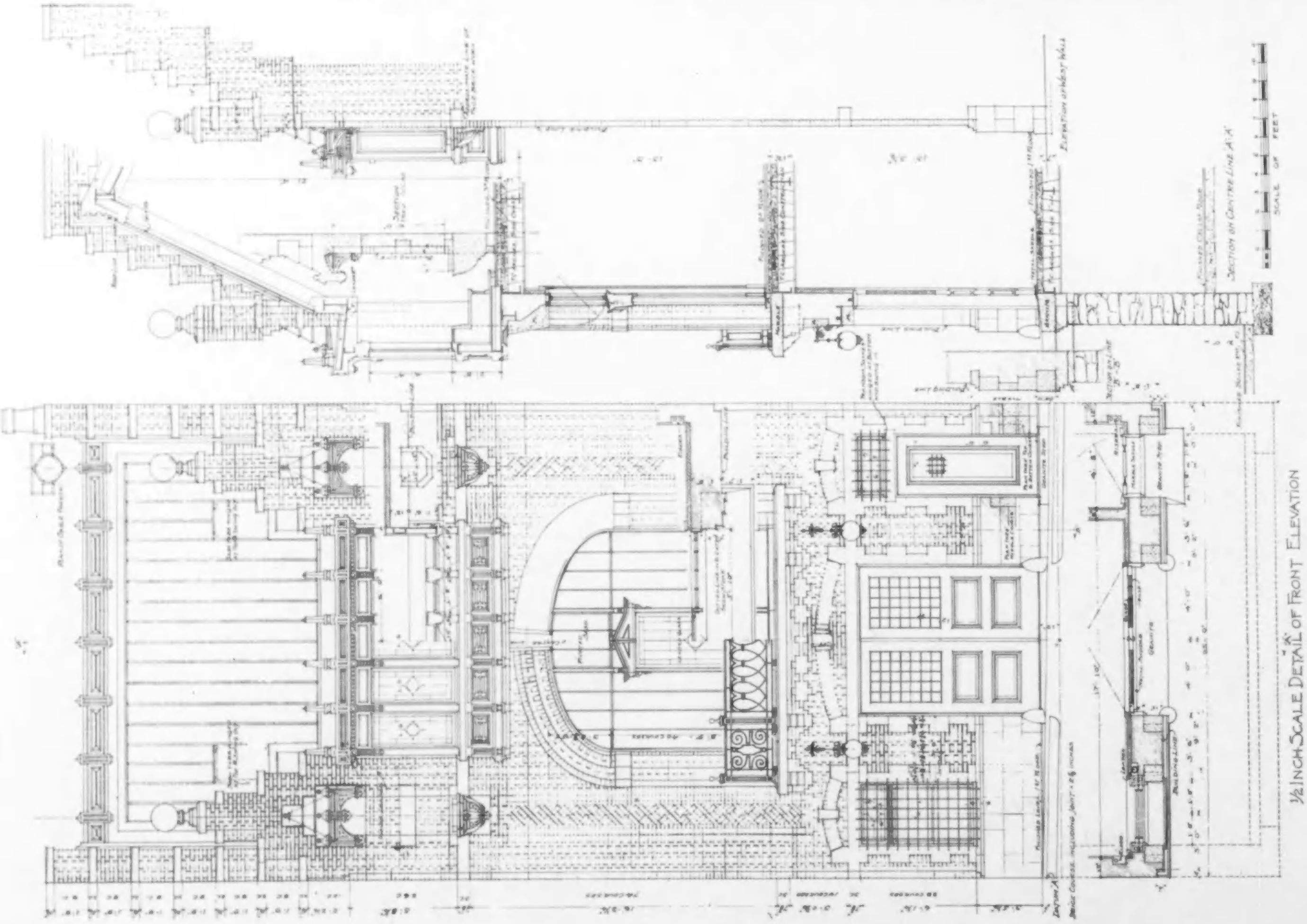
VOL. 21, NO. 3. PLATE 32.



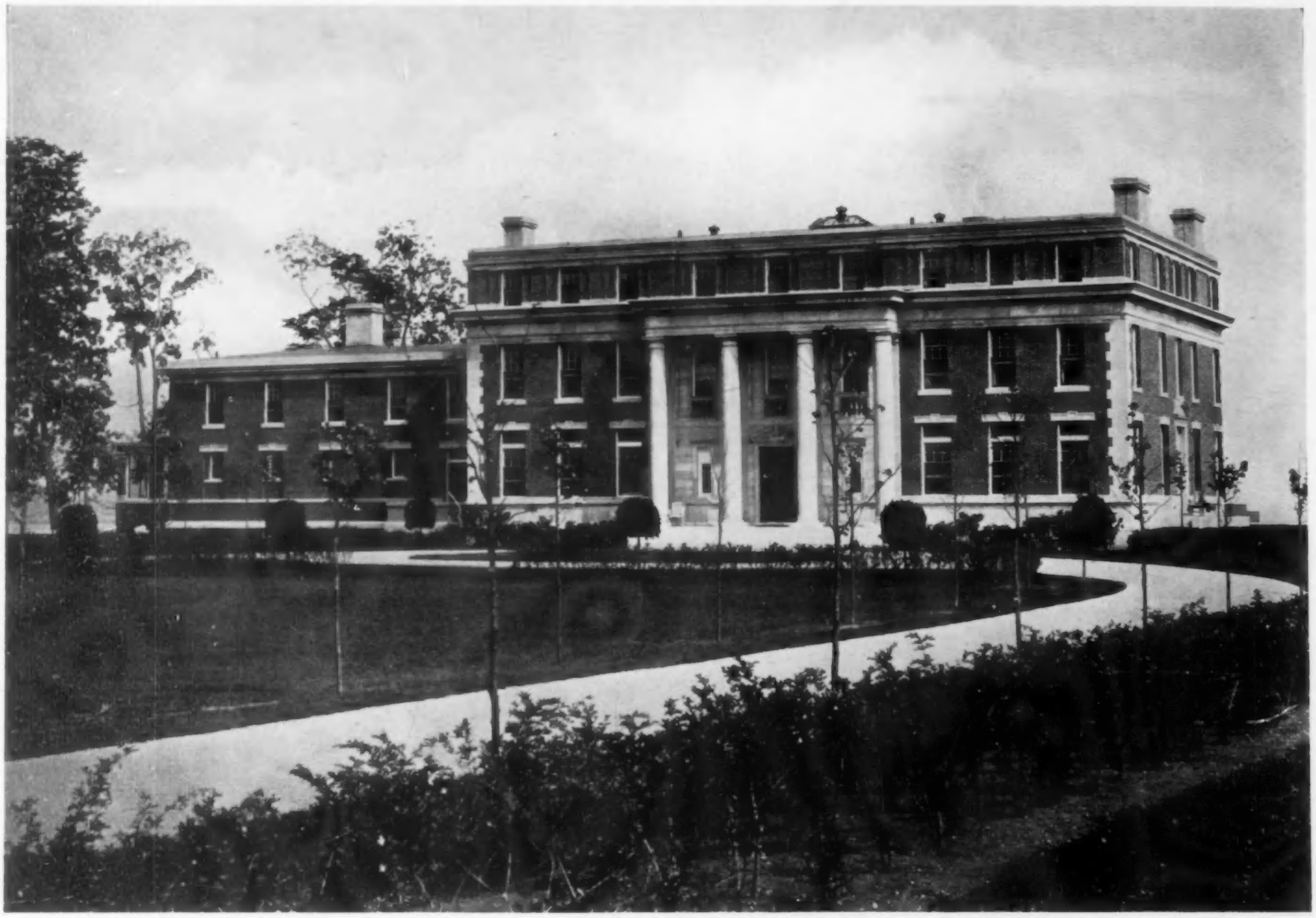
THE "VER MEER" STUDIOS, 111 E. 66TH STREET, NEW YORK CITY.

E. R. BOSSANGE AND BUTLER & RODMAN, ASSOCIATED, ARCHITECTS.

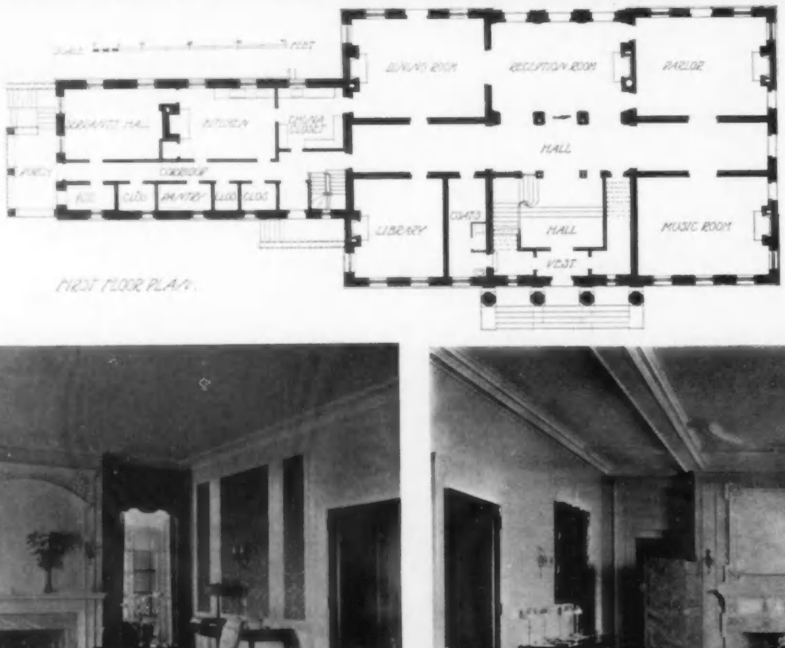
STUDIO NO. 1.



½ INCH SCALE DETAIL "A" OF FRONT ELEVATION



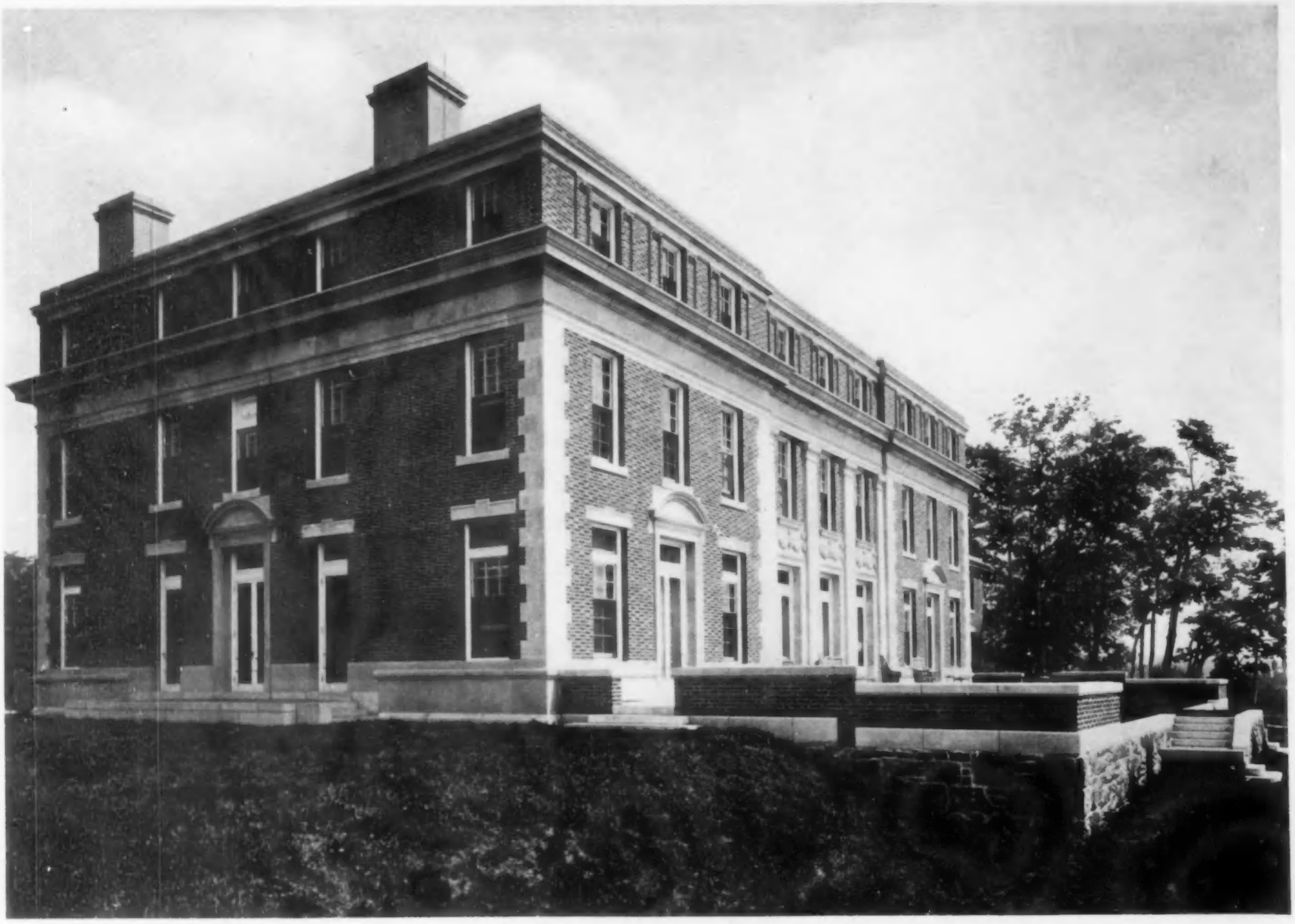
HOUSE AT PRIDES CROSSING, MASS.



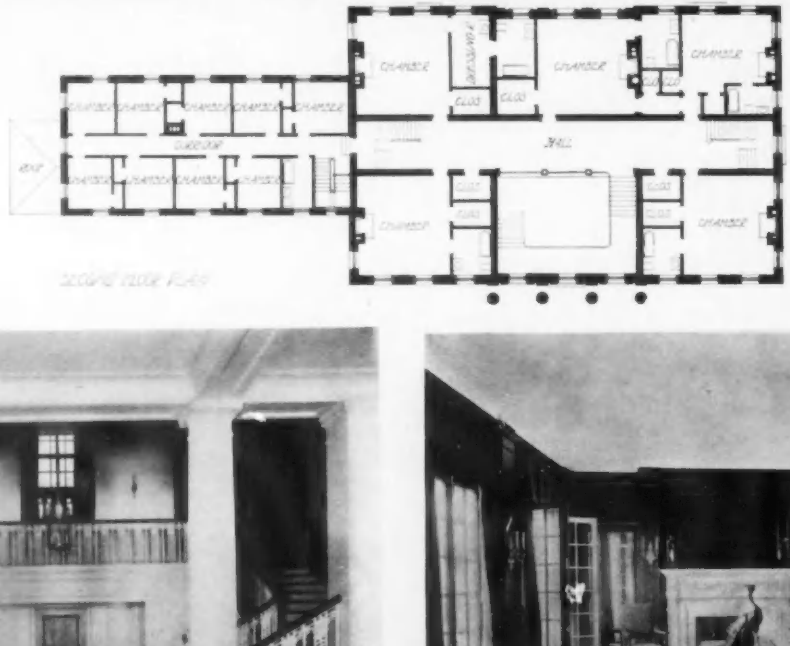
GEORGE C. WALES ARCHITECT.

PARLOR.

DINING ROOM.



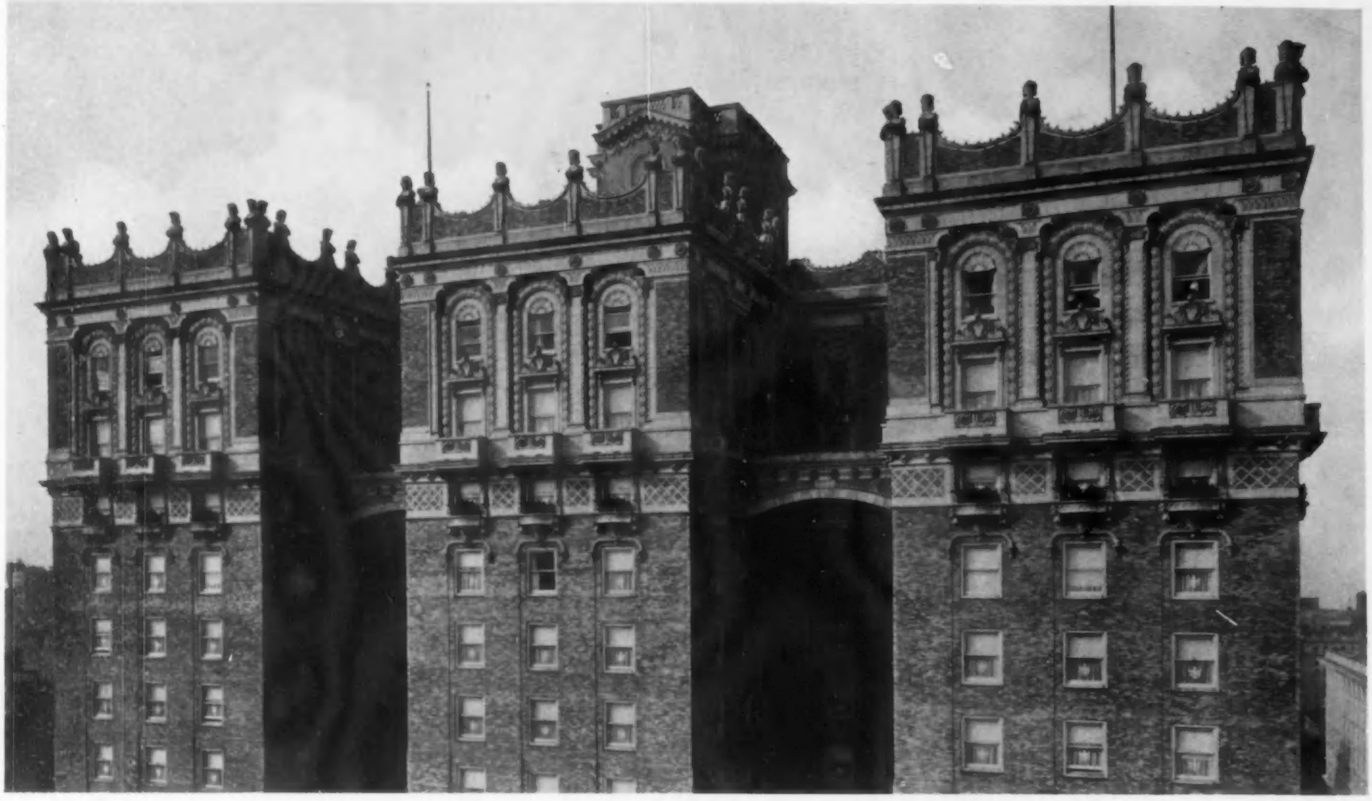
HOUSE AT
PRIDES CROSSING,
MASS.



GEORGE C. WALES,
ARCHITECT.

HALL.

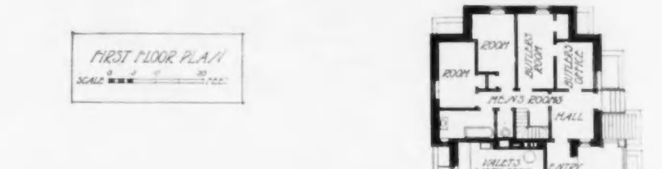
RECEPTION ROOM.



UPPER AND LOWER STORIES, HOTEL VANDERBILT, NEW YORK CITY.
WARREN & WETMORE ARCHITECTS

HOTEL VANDERBILT, NEW YORK CITY.
WARREN & WETMORE, ARCHITECTS.

HOUSE AT BEVERLY FARMS, MASS.
PARKER, THOMAS & RICE, ARCHITECTS.

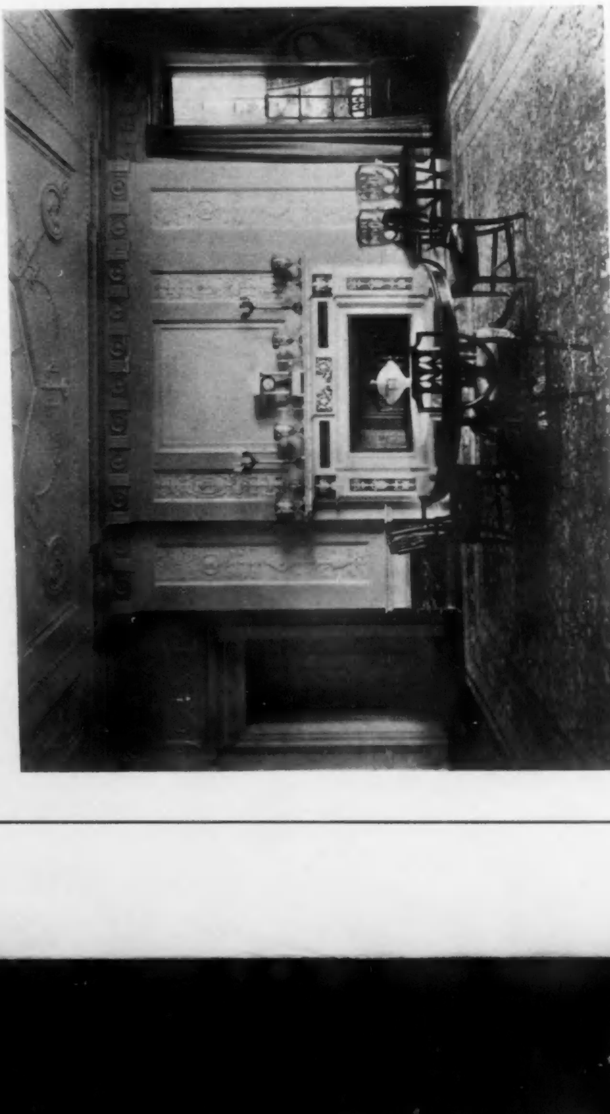


HOUSE AT BEVERLY FARMS, MASS.

PARKER, THOMAS & RICE, ARCHITECTS.

HALL.

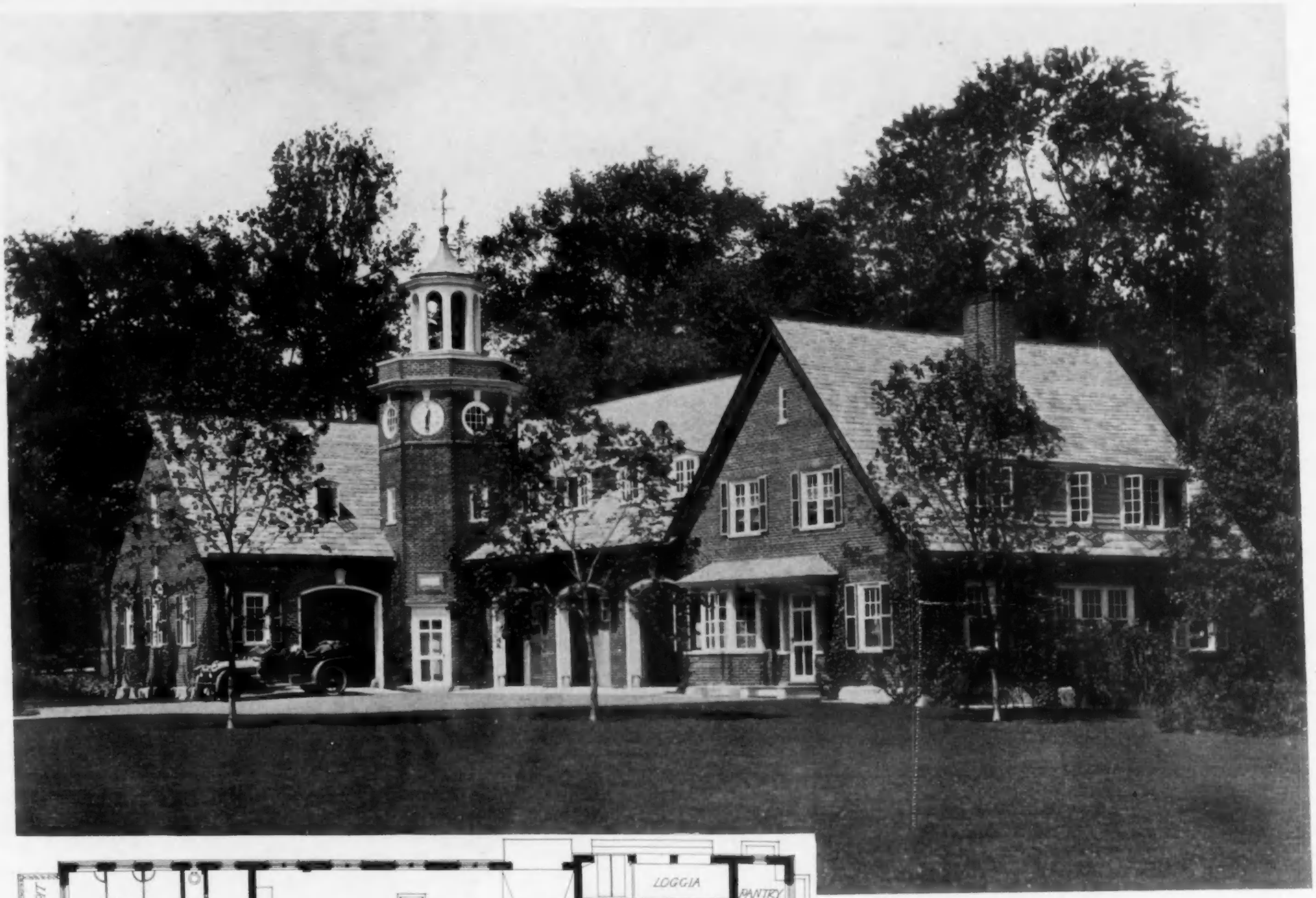
LIBRARY.

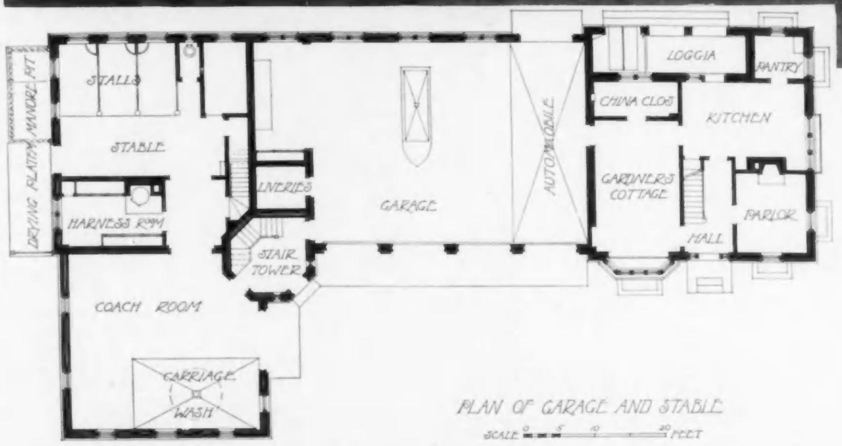


DINING ROOM.

INTERIOR VIEWS, HOUSE AT BEVERLY FARMS, MASS.

PARKER, THOMAS & RICE, ARCHITECTS.

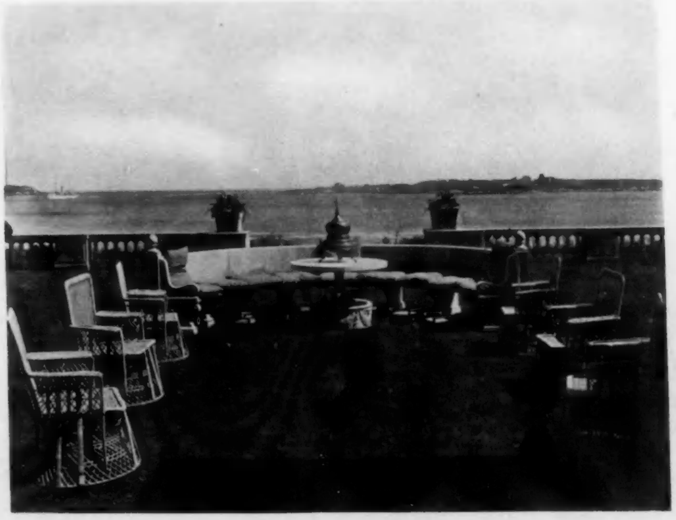




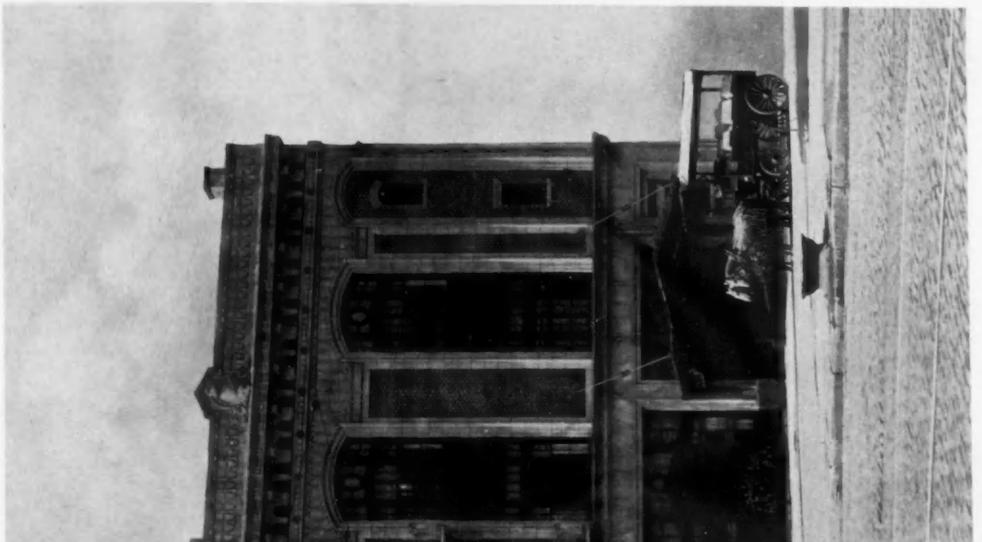
PLAN OF GARAGE AND STABLE

VIEWS OF STABLE AND TERRACE
HOUSE AT BEVERLY FARMS, MASS.

PARKER, THOMAS & RICE,
ARCHITECTS.



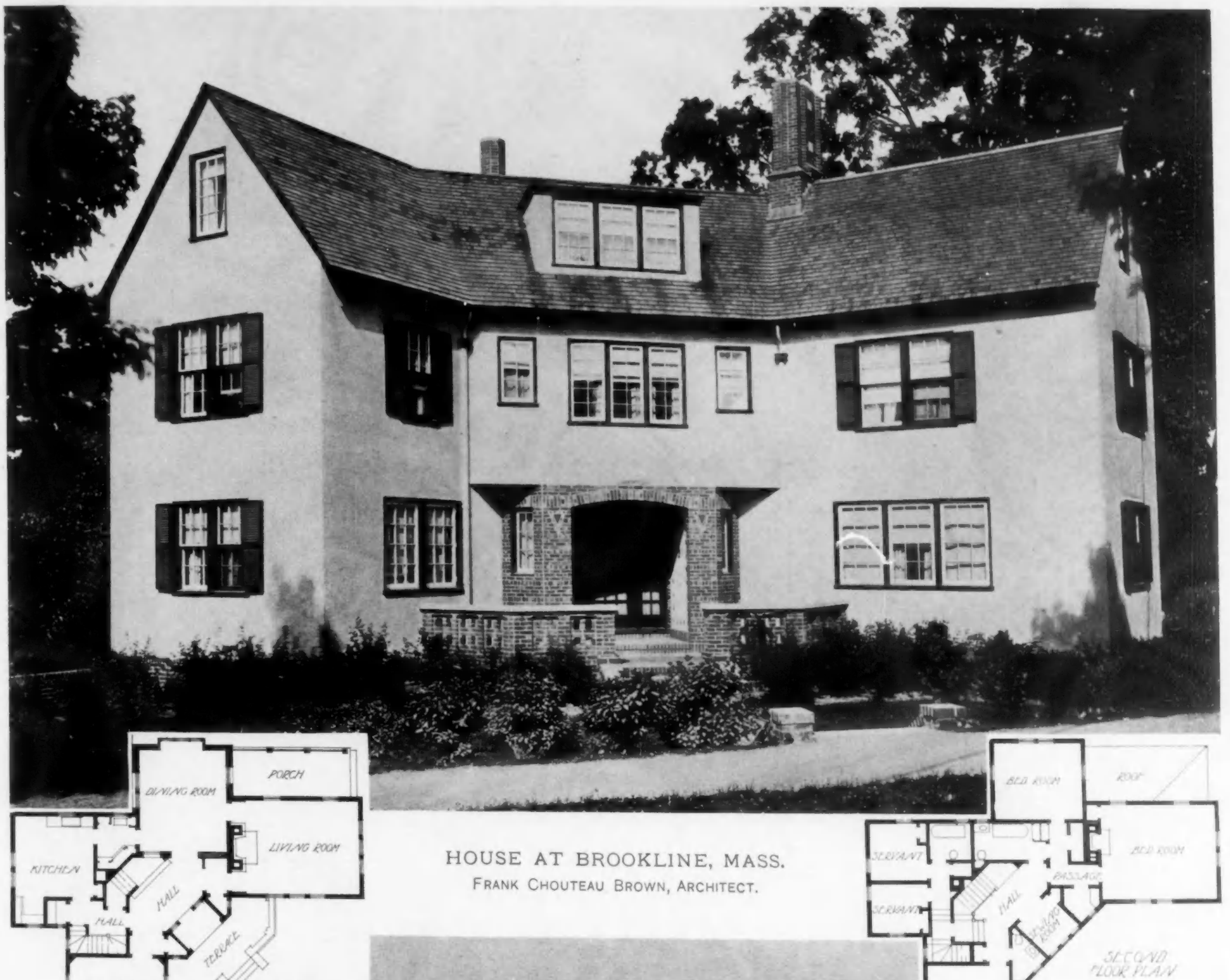
ARENA RESTAURANT.



WASHINGTON RESTAURANT.

TWO RESTAURANTS AT NEWARK, N. J.

HUGHES & BACKOFF, ARCHITECTS.



HOUSE AT BROOKLINE, MASS.
FRANK CHOUTEAU BROWN, ARCHITECT.

Commemorative Monuments.—II.

H. VAN BUREN MAGONIGLE.

IN the previous article we discussed general questions of site and setting, and of design as affected by them; in this and succeeding ones it is proposed to give examples of many types of Memorials upon which the reader must supply the chief commentary; happy the critic who, not engaged in the active practice of an art, can joyously jump upon anything that does not please his fancy; but only a practitioner of superhuman tact can belabor the work of a contemporary without inflicting wounds upon that most sensitive portion of a brother artist — his *amour-propre;* and that practitioner has not yet appeared over his own signature. But after a certain lapse of time, whether the author be living or dead, the work becomes impersonal; it has cooled off sufficiently, as it were, for any impious hand to touch it. Let us, however, move delicately in this perilous task.

It is our plan to commence with those monuments in which sculpture plays the more important rôle, taking first the single statue, then the more complicated sculptural compositions, and afterward those in which architecture is dominant, as in the column, the arch or the tomb, although the privilege is reserved of departing from this classification at any moment.

Because it illustrates perfectly a number of principles too often neglected, we choose to begin with the little statue of Jeanne d'Arc in front of the Hotel de Ville at Orléans; it is beautifully studied in relation to the architecture around and behind it; the richness of the Gothic tracery in the balustrade is an excellent foil for the simple treatment the figure has received. The sculptor has recalled the vertical lines of the architecture in the folds of the skirt, and so united them in a very subtle and charming way; the broad surfaces of the armor are in excellent contrast to the color of the rest, using color in its sculptural sense as light and shade. There is a beautiful balance and contrast in color between balustrade and statue as the result of a greater number of shadow-throwing forms in the balustrade and fewer in the figure. It is interesting to compare another statue of the Maid of Orléans in the same town at one end of the Pont de Tournelles. It lacks the feel of the period and might commemorate any daughter of the regiment; but it is well placed.

STATUE OF JEANNE D'ARC, ORLÉANS, FRANCE.

The view of the monument to "Chinese" Gordon, in Trafalgar Square, scarcely does it justice. It is really more impressive than it appears here. The pedestal, while designed in harmony with the character of the architecture about it, has a fault common to many; the cornice is too shelf-like, and projects far too much. Statue and pedestal should be one thing, and too great a projection of the cornice disunites them. Indeed, a cornice is scarcely necessary, and some of the best pedestals I know have none at all. All our real interest should center in the statue, and nothing should detract from that interest. All the pedestal is for is to lift the statue to a height sufficient for dignity, and to continue its lines to the ground, and should have only just so much treatment, be given just so much color, as will serve to unite it with the sculpture, support, oppose or repeat its dominant lines, and no more.

The author of the statue of Stanislaus, in front of the Hotel de Ville of Nancy, was well inspired in designing it in accord with the prevailing note of the period, which was rather pompous. The detail of the pedestal is somewhat out of scale with the statue, but the fault pointed out in the Gordon pedestal is absent here and there is, therefore, greater unity in the composition.

In the statue of James the Second at Whitehall, London, we may question the taste which invests the king with the trappings of a Roman general, but there is a certain harmony, nevertheless, between the monument and its background.

It will not fail of remark that most of these monuments are placed with a very definite appreciation of what their effect seen in relation to their surroundings should be — that there is a certain restful quality about them, and that they seem to belong fairly well to the spot they occupy. Let us examine one or two examples of an utter disregard of these simple principles, in New York. There is one absolute test we may apply to the placing of any monument. There must be something inevitable about it. In other words, the monument must be so closely related to its environment that we could not imagine it looking so well in any other spot. When we apply this test to these examples we see at once that something is wrong; they do not belong where they are any more than elsewhere.

It is astonishing to find that the statue of Lafayette in Union Square is actually on the axis of Broadway. There is nothing to indicate that it stands at the head of an important thoroughfare. In the first place, it is in itself too insignificant in mass to occupy so important a position and should be amplified and supported by some further architectural treatment. In the second place, it does not even face Broadway but is simply plumped down on the grass anywhere. It seems incredible that this monument, which

for grace and beauty is one of the best things we have in its kind, should be so shamefully abused. It would gain immensely in distinction in a proper and dignified setting.

Another example is the Lincoln Monument in Union Square. This photograph is taken from the corner of Fourteenth street and Fifth avenue. It will be observed with interest that we have a fine view of the back of the neck. Fourteenth street and Fifth avenue is one of the busiest corners in the city, and it might be supposed that the statue would be placed where the thousands of passers-by could see it. As it is, it may be some inspiration to a better life for the occupants of the benches in the Park. The pedestal is beneath contempt, a product of our most tasteless period.

STATUE OF STANISLAUS OF LORRAINE, NANCY, FRANCE.

The Farragut Monument is one of the early products of the collaboration of Augustus St. Gaudens and Stanford White. Although White designed the pedestal, it might have been done by a sculptor if one could be found who was well trained enough in architecture to design his own setting; it has a plastic quality which harmonizes so perfectly with the sculpture that in the work of two masters, in perfect sympathy, we seem to see but one mind and one hand. The color of the unusual and beautiful exædra emphasizes the harmony of form; it is a dark bluestone, and the bronze has taken on a beautiful dark patine. It is to be regretted that this monument is so ill-placed, dumped down on the westerly margin of Madison Square, unrelated to any path or thoroughfare or point of approach.

In the setting accorded Ward's statue of Washington we need yield nothing to Europe on the score of dignity and impressiveness. Magnificently placed at the head of Broad street, the Sub-Treasury Building is one of the few exceptions that we may make in our strictures upon the generally unmonumental placing of our buildings and monuments. The statue gains immensely by its splendid background. In a balcony just above this spot Washington took the oath of office as President of the United States and the sculptor has represented him in that attitude. This is far and away the best thing J. Q. A. Ward ever did.

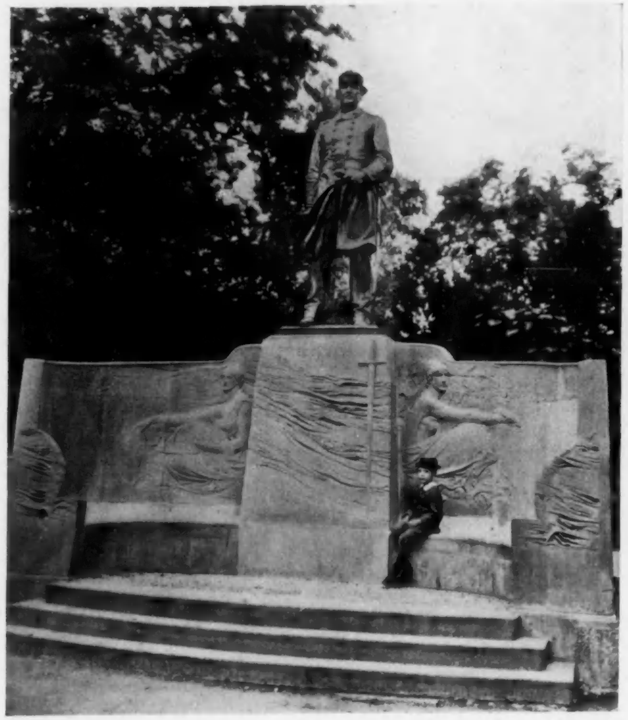
The monument to Admiral Coligny in Paris is an exception to the rule that obtains abroad, for it is miserably placed, crowded into a narrow space and almost impossible

STATUE OF JEANNE D'ARC, ORLÉANS.

STATUE OF GORDON, LONDON.

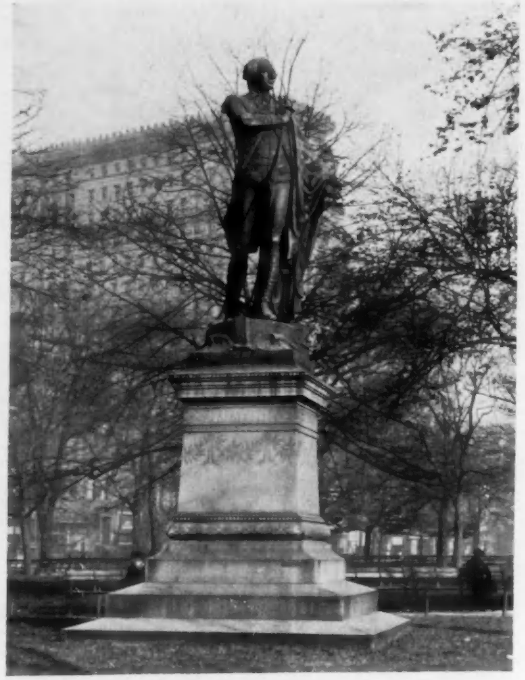
STATUE OF JAMES II., LONDON.

STATUE OF MARK HANNA, CLEVELAND.



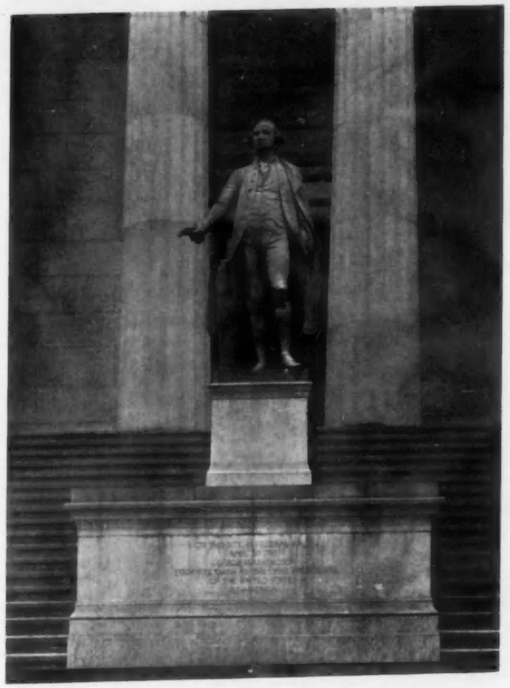
STATUE OF FARRAGUT, MADISON SQUARE, NEW YORK CITY.

STATUE OF GENERAL MACOMB, DETROIT.



STATUE OF LAFAYETTE, NEW YORK CITY.

STATUE OF LINCOLN, UNION SQUARE, NEW YORK CITY.



STATUE OF WASHINGTON, NEW YORK CITY.

COMMEMORATIVE MONUMENTS.

to see; the architectural frame is a beautiful piece of design in the character of the work of Coligny's time, treated with extraordinary sympathy and skill. American architects are too prone to design distinctly classic settings, Greek or Roman, for statues of men of any period. They may have lived in colonial times or may have died yesterday; poets, statesmen, or captains of industry; men of calm natures or men with fiery, turbulent temperaments; dressed in the more picturesque garments of an earlier day or in the apparently unmanageable frock coat and trousers of the present fashion — the pedestal is almost invariably "pure" and as classic as possible. True, this is safer and in the main more satisfactory than the average pedestal the sculptor designs for himself and to which he usually tries to give a plastic quality intended to harmonize with his sculpture, but which is usually either mushy or brutal. But theoretically the most successful result lies somewhere between the two; the architect needs to loosen up and get more plasticity in his share of the work without losing the firmness that should mark a highly conventionalized form; while the sculptor should either study the technics of architecture thoroughly for several years or let the pedestal alone.

STATUE OF OGLETHORPE, SAVANNAH, GA.

But in any case the character of the pedestal should partake in some degree of the character of the statue and the time. An orator represented as violently declaiming stands on a pedestal purely Greek and calm — contrast with a vengeance; or a statesman in badly fitting frock coat and baggy trousers (why must they fit so badly and bag so baggily), in an attitude of statesmanlike dignity, is supported by a playful little rococo base. Will the sculptor ever arise before the present fashions go out who will seize the possibilities of sculptural beauty in the clean-cut lines of a well fitted modern coat and trousers, which reveal the structure of the figure in the clothes as much as it needs to be revealed in a clothed figure. Is it because the sculptors are unfortunate in their models, the average statesman being notoriously careless in his dress? Or is it because in their desire for movement, for modeling, they prefer to clothe the legs in gunny sacks? Or go to the other extreme and encase them in rigid tubes of tin? Why must the coat pull under the arms, why must it be so tight across the chest and stomach that there are horizontal creases at every button; and why, oh why, must the skirts of it look as though they had been innocent of the iron since they left the slop-shop? I am not pleading for the tailor's dummy as a necessary adjunct of the studio, but I should like to see gentlemen represented as such and not either as though they had slept in their clothes, or had had them made by a tinsmith.

The problem of designing a fine pedestal for the statue of a modern man in the usual dress of the day is a most difficult one, and to my mind has yet to be solved, just as has the treatment of his garments. The Farragut is hardly to be classed here, for he is in uniform, loose sea clothes with the wind in them, as he should be. It is the ordinary citizen who gives the trouble.

In the monument to Oglethorpe, the first Colonial governor of Georgia, the picturesque costume of the time gave Daniel C. French, the sculptor, an opportunity for a capital treatment in detail and in silhouette; the pedestal is by Henry Bacon who also designed the interesting pedestal of the Mark Hanna statue by St. Gaudens in Cleveland.

MONUMENT TO ADMIRAL COLIGNY, PARIS.

Albert Randolph Ross designed the very simple rectangular pedestal and *entourage* in New Hampshire pink granite for A. A. Weinman's statue of General Macomb at Detroit, one of the handsomest portrait statues we have; simple, direct, and masculine, without affected or dramatic gesture; the treatment of the long military cloak is a triumphant solution of a difficult problem; the man is in absolute repose, the only movement that of the wind in the cloak, and it is this that gives the figure life and spirit. For such a statue just such a simple setting as this seems the only fitting thing. The color of the bronze is repeated in the three bronze cannons, actual relics of the War of 1812.

ROMAN FORUM. RESTORATION OF ANCIENT ROME BY J. BÜHLMANN AND A. WAGNER. TEMPLE OF JUPITER.

Distinguished Architecture as a Precedent.—I.

C. HOWARD WALKER.

THE intention of these articles is to analyze for architectural students the qualities in acknowledged masterpieces of architecture which are instructive and suggestive in modern work, and the characteristics in various styles which are still applicable despite changes of materials, requirements, and social ethics. In order to do this, an inquiry as to qualities common to all of the best buildings in the world is necessary in order to eliminate minor peculiarities produced by local demands. It is manifest that directness of expression and simplicity of masses are to be found in all architectural masterpieces, and that refinement of detail is always present. All are carried to the farthest point of development in each of these factors. Confusion of form and crudeness of detail inevitably remove a building from the first ranks, and, usually, the materials used in the construction are the best procurable. The architectural properties of special styles can be ignored, and are in fact merely fashions of expression.

The influences which have caused the erection of fine buildings are usually to be found in the recognized desires of a populace, not of an individual; and the work of an individual is of value only when it follows the trend of the established expression of a number of minds devoted to one idea. Good architecture has been the outcome of gradual accessions to a simple demand, not to original inspirations — hence the study of past work, and the application of its lessons.

Certain structural factors are necessary, such as vertical walls, and isolated vertical supports; and beams, lintels, or arches spanning openings, and coverings or roofs to enclosed areas. As the roofs are in planes which are more or less retreating from the observer, and as they are usually of less proportions than the walls, they are of less relative importance and are treated correspondingly on the outside. Inside the building their importance increases, and they are often treated with greater attention than the walls.

The openings in the walls are subject entirely to the demands of the circulation of the building, both as to people and to light. These factors are utilitarian and necessary, and all good architecture submits willingly to their demands. There is at once a feeling of incongruity and of dissatisfaction when any of these factors is exaggerated beyond the point of necessity.

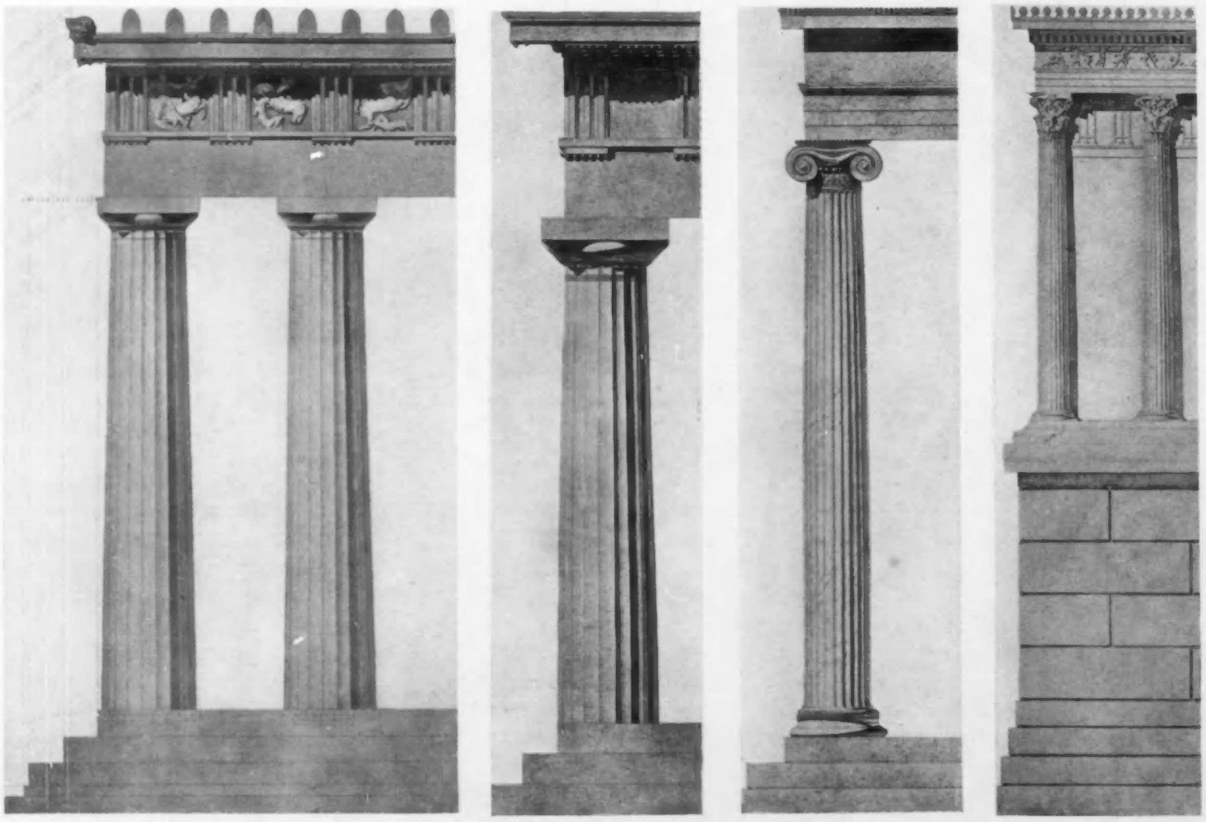
NORTH PORCH OF ERECTHEION, ATHENS.

From the simple mud wall and pitched roof the original cell from which architecture has grown was created, the walls were protected from the rains by extensions of the roofs supported on posts, at times over entrances only, at times entirely around the cell. The wooden structure became developed at its joints, became protected by metal and by stucco, and was translated into stone, and the so-called classic orders of architecture were developed. But the post in becoming the column and the beam in becoming the lintel and the eaves in becoming the cornice lost none of their structural character. They thickened, as stone had not the fibrous strength of wood, and the cleats became mouldings accenting the joints of structure, merely indicating where one

structural feature ended and another began. Whether the classic portico and peristyle would have developed from stone structure only is not the question. In developing it did not violate its own possibilities. But it is worth observing that originally detached colonnades were associated with walls comparatively devoid of openings, and that when openings multiplied the columns became engaged with the walls and were merely rounded buttresses. This at once occurs in adaptations of the classic orders where more than one story is required and where ample light is necessary, both of which are the usual conditions in modern work.

The Greek orders were developed in temples of a single cell, with one entrance and lighted from the roof—if lighted at all. The Parthenon at Athens, from the beauty of its material, its detail and its sculpture, is considered the most noble example of the simplest order, that of the Greek Doric, but it is not in as perfect condition as either the Theseion at Athens or the Temple of Concord at Girgenti. The proportions of the order change slightly, becoming more delicate in the progress of time, but the disposition of the columns, their relations to the walls, their uniform height and character and distance apart are maintained. All experiment with this order merely belittles it, especially if any attempt is made to use columns of various sizes and heights. Its character is dignified and inflexible. It denotes strength and simplicity, and is not amenable to changes. It was thoroughly developed for its purpose: that of expressing a single cell or a small group of cells, isolated with considerable space about them, and with few wall openings, and can adequately express similar conditions to-day. The lesson of its profiles and details is that of admirable restraint. There is not a square inch of superfluous decoration, nor of redundant mouldings, and its factors can only be associated with the simplest of forms. Sculpture associated

TEMPLE OF CONCORD, GIRGENTI, SICILY.



The Parthenon. Temple of Castor and Pollux. The Erectheion. Monument of Lysicrates.

DETAILS OF GREEK ORDERS DEVELOPED IN TEMPLES AND MONUMENTS.

RESTORATION OF THE PARTHENON, ATHENS, BY E. SHIERSCH.

with it must be extremely simple and dignified in character. It was lightened in effect entirely by treatment in color upon its sculpture and mouldings, and without such treatment is most austere. As the projections of porticos and peristyles necessarily obstruct light its colonnades are of value solely to produce deep shadows, and are of doubtful use in modern work excepting as porticos over main entrances or in cloistered enclosures. Its special value to the student is in the study of its simplicity, dignity, and restraint.

While the columns on the Greek temples carried comparatively little weight, they are so robust that they appear adequate to carry much, and are consequently used below large surfaces of wall. The student is advised to study Stewart and Revett, Penrose and Pennethorne for subtleties of the Greek orders of architecture.

RESTORATION OF THE ERECTHEION, ATHENS, BY BÜHLMANN.

The second Greek order, called the Ionic — is more delicate than the Doric in all its qualities. Its mouldings and details are in smaller relative scale to its surfaces — its columns become more slender and are fluted and have bases. Its entablature is without the squares of the metopes and triglyphs, and grouped mouldings become frequent and its capitals are scrolled. As the shadows which its projections cast are less than those of the Doric, the order is capable of more frequent use when light openings are needed between the columns, and, as the capitals and entablatures differ in character, colonnades with different heights of columns can be associated. The order is therefore more flexible than the Doric, and can be used with greater ease upon grouped masses. The chief difficulty is in the use of the capital at a corner — as the Ionic caps with a corner scroll are far from satisfactory, even in the best Greek examples as at Bassae and elsewhere. The Ionic colonnades are, therefore, best when in antis,

that is, where they are defined at each end by a pier or wall and do not turn the corner. The most delicate work of the Ionic style is the Erectheion on the Acropolis at Athens, and the Temple at Priene. While Ionic architecture was picked out in color with blue, red, and gold in the backgrounds of the carving — it is not dependent upon color decoration. The qualities of the style are those of great refinement and delicacy, and it is admirably fitted to express monumental buildings of fine distinction.

The third Greek order, the Corinthian, has the qualities of luxury and of display. Its entablature is enriched with carving and with scrolled modillions or brackets, its mouldings become rich and ornamented, its capitals are most elaborate. It is capable of great variety, but cannot be simplified without appearing impoverished. It can only be adequately made of the finest materials, and is therefore costly. Unless associated with broad, plain surfaces, it appears over-ornamented, and is at its best when focused at points requiring rich treatment. It requires a somewhat large scale, as when small it seems to be a reduction in miniature from larger forms. This, however, is not always the case when its columns are engaged in the wall. It is the order which appealed to the sensuousness and luxury of Rome, and its best known examples are in Roman buildings. The Greeks at times used a simplified capital without scrolls, and with a single row of leaves, and with an entablature which was more Ionic than Corinthian.

The Choragic Monument of Lysicrates is the best example of the Corinthian in its simplest form. The temple of Jupiter Stator at Rome is that of the most elaborate type. The orders were developed upon low buildings, of one story or of one story and an attic or parapet — or if used upon buildings of more stories they appeared at the top with plain walls below. All buildings in which the orders are used are necessarily stratified horizontally, and all attempts to superpose, that is, place one order with its columns over another, have been somewhat unsuccessful. A light transposed order can be placed over a heavy one with moderate success, but the superposing of three orders one over the other courts failure. The use of the entablatures alone without the columns can be carried on indefinitely. In order to avoid the difficulties of superposed orders, the attempt was made at an early date to have the height of the column embrace two or more stories, again with questionable success, as the scale became gigantic and antagonistic to that of adjacent buildings without columns. The full orders, therefore, with their columns are best when expressing large cells of the height of the orders, and therefore are adapted to large halls, banking rooms, theaters, etc., the portion of the building in which rooms are small being treated with wall surfaces without the columns.

THE THESEION AT ATHENS, GREECE.

The Colosseum and the theater of Marcellus at Rome are well-known examples of superposed orders.

The difference between the Roman orders and the Greek from which they were derived is one of relative distinction, the Roman orders being cruder in proportions, profiles of mouldings, and details and carvings. The Romans began the use of columns entirely as architectural ornament, regardless of necessity of structure, as is best evidenced in the triumphal arches. As a result, sincerity of structure often succumbed to mere desire for interesting light and shade.

The so-called Composite orders are the unsuccessful attempts of innovators. The true orders of architecture were so carefully developed by skilful men, that if they are used, changes which are not the result of necessity are unwise, and unless the conditions of the problem have marked points of resemblance to those of the buildings upon which the orders were first developed, it is well to avoid the use of the orders in their entirety.

Editorial Comment and Miscellany.

THE CLAY PRODUCTS EXPOSITION.

THE first Clay Products Exposition, held at the Coliseum, Chicago, March 7th to 12th, met with a measure of success which could hardly have been anticipated by the promoters. The exposition was given at a time when all the National Clay Working Associations were holding their conventions. All sorts of burned clay products were shown, and many of the manufacturers were assisted in making their displays by members of the architectural profession. The daily press of Chicago seemed to have caught the spirit of the occasion and gave liberally of their space, with the result that clay products were certainly given an unlooked for boost.

More than one hundred thousand people attended the great show, among them, President Taft, governors of several states, mayors of cities, and many architects and builders from different parts of the country.

DETAIL OF FIRST PRIZE DESIGN BUNGALOW SUBMITTED IN THE BRICKBUILDER COMPETITION AND BUILT AT THE COLISEUM, CHICAGO.
Ralph J. Batchelder, Architect.

The design awarded first prize in the Bungalow Competition was reproduced at full size, and in addition two hundred of the designs submitted in this competition were shown. Undoubtedly these features served to arouse the greatest interest on the part of the general public. Nevertheless the really wonderful displays of brick, terra cotta, faience, and fireproofing, shown in design and constructions were revelations.

The cost of building the First Prize Bungalow was about $4,000. In its construction a brick costing $23 per thousand was used; the roof was covered with a beautiful green tile; the wookwork and hardware were all first-class, and the labor cost nearly double what it ordinarily would cost because of the fact that much of it was performed on Sunday and during nights.

DETAIL BY WALLIS & GOODWILLIE, ARCHITECTS.
American Terra Cotta and Ceramic Company, Makers.

Plans have already been started for another exposition next year, and it is expected that profiting by the experience of this year an even better exhibit will be given.

PLATE ILLUSTRATIONS—DESCRIPTION.

APARTMENT HOUSE, 563 PARK AVE., NEW YORK. PLATE 29. The building contains fifteen apartments. The basement and first two stories are finished in olive sandstone while the red brick above is separated by stone string courses at every second story. The moulded belt between the two top stories together with the continuous iron balcony takes the place of the regular cornice. The apartments are mostly of the duplex type. Each apartment provides for an unusual number of servants' rooms and includes an additional room in another portion of the building. The basement accommodates individual laundries with steam dryers and private storage rooms.

THE VER MEER STUDIOS, NEW YORK CITY. PLATES 31, 32. The building presents a somewhat unusual problem. The plan calls for a garage with groom's and chauffeur's quarters, and a large studio for the owner's use, in addition to two studios and a studio apartment to be rented. The materials upon the exterior are Harvard brick, white marble, and wrought ironwork painted a dark gray. The designs of the leaded glass in the windows are adapted from Dutch originals. The large garage on the ground floor is practically surrounded by unperforated walls, making a fireproof box within the building which is itself of fireproof construction throughout. In order to provide more rooms the level of the first floor has been dropped several feet so that three stories are provided at the rear in the space occupied by the garage and studio in the front.

HOUSE AT PRIDES CROSSING, MASS. PLATES 33, 34. The house is of brick laid in Flemish bond with a wide joint of coarse mortar and pebbles. The color of the brick ranges from deep blues to light reds. The trimmings are of Indiana limestone. The dining room, parlor, and music room are finished in pine painted white, while the reception room and library are in oak stained dark. All doors of the first story are oak with one large panel.

HOUSE AT BEVERLY FARMS, MASS. PLATES 37–40. The house is built of dark-red brick with Indiana limestone trimmings. The roof is of heavy slate with a green-gray effect. Upon the interior the hall is paneled in gray

DETAIL OF STATE OF POLAND SEAL FOR THE ST. STANISLAUS SCHOOL, ADAMS, MASS.
Executed in cream matt terra cotta by the Atlantic Terra Cotta Company.
John Wm. Donohue, Architect.

and white woodwork; the dining room has modeled plaster panels with a marble mantle, and the library is finished in gum wood. All floors throughout the first story are of oak parquetry. The house is equipped with plunger elevators and a vacuum cleaning plant. The kitchen is located in the basement for the purpose of eliminating odors from the main floor of the house. The stable is arranged to accommodate the head gardener, the garage, and the stable equipment. It is built of brick similar to that used in the house. There is also a revolving summer house with three of the six sides enclosed with glazed glass. The cost of the house was approximately $150,000.

Arena Restaurant, Newark, N. J. Plate 41. The exterior of the building is of brick and exposed timber work stained a dark brown. The grill room in the basement front is finished in chestnut, handcraft silvered effect, with high panel wainscot and shelf. The rear of basement provides for a complete kitchen equipment with pantries, refrigerators, steam heating and ventilating plant. The main restaurant — 25 by 138 feet — is 24 feet high with a balcony 20 by 25 feet supported on marble columns. The vestibule is finished in tile with mahogany trim. Over the vestibule is located the toilet for men. At the rear of the first floor is a balcony for musicians and private tables, under which is located the service pantry, ladies' toilet and retiring room. The interior decoration is of Louis XVI style with vaulted ceilings and skylights having designed ceiling lights and glass to match. The color scheme is a blending of cream, gold, and terra cotta. The cost of the building was $30,000, making 24 cents per cubic foot, figured from cellar floor to roof.

Washington Restaurant, Newark, N. J. Plate 41. The building is faced with brick laid in Dutch bond with trimmings of Indiana limestone, marble, and terra cotta. The window treatment and marquise are of bronze. In the basement under the sidewalk is a grill room with the walls and ceiling decorated to represent the different zones. All woodwork is finished in adzed chestnut, while the floor is laid in red Welsh tile. The balance of basement provides for a complete kitchen equipment, including an ice machine room for refrigerator, etc. The buffet on the first floor is trimmed in quartered oak with a specially designed ale case, red Welsh tile floor, and paneled wainscot. The restaurant is finished in quartered oak with marble base and columns, paneled ceiling, heavy moulded cornice and frieze with silver decoration, side walls of Delph blue tapestry, and Delph blue valances with silver ornamentation. The main vestibule, trimmed in quartered oak, has a mosaic floor and a marble staircase and elevator enclosure. The second floor is trimmed in Spanish mahogany with hall floors of tile and room floors of quartered oak. The third floor decorations are white, French gray and gold, with gold valances. The floor in ball room is of clear white maple. Complete ventilating and vapor heating systems have been established throughout. Entire cost of building was $100,000, or 60 cents per cubic foot figuring from cellar floor to roof.

DETAIL FOR THEATER, PHILADELPHIA.
Conkling-Armstrong Terra Cotta Company, Makers.
Albert E. Westover, Architect.

DETAIL FOR GENERAL ELECTRIC COMPANY BUILDING, BUFFALO, N. Y. FIGURES FOUR FEET IN HEIGHT.
Executed by Atlantic Terra Cotta Company. Esenwein & Johnson, Architects.

SELLING BUILDING, PORTLAND, OREGON.
Built of buff speckled Norman brick made by the Columbus Brick and Terra Cotta Company.
Doyle & Patterson, Architects.

DETAIL OF BISHOP'S SEAL FOR THE ST. STANISLAUS SCHOOL, ADAMS, MASS.
Executed in cream matt terra cotta by the Atlantic Terra Cotta Company.
John Wm. Donohue, Architect.

HOUSE AT BROOKLINE, MASS. PLATE 42. The main portion of the house is built of brick covered with stucco of a natural color. The entrance and other brick features are of a cherry-red water struck brick, rough in texture and varying in tone effect. Tile has been used between the bricks instead of headers, which gives a decided touch of color to the ensemble. In the vestibule are large plaster panels with tile effects also. The floor of the porch consists of six by nine inch roofing tile, while that of the vestibule is laid in brick patterns. The basement provides for a play-room which is designed throughout in brick and tile paneling.

CITY PLANNING IN SEATTLE.

IN 1909 the Washington State Chapter of the American Institute of Architects brought about the organization of the Municipal Plans League, which urged the importance of studying the city's requirements for years to come so effectively that a little less than two years ago the city charter was amended to provide for a municipal plans commission. Its purpose was to procure plans for extensions of the city to meet probable future demands. The law required the members of the commission to be drawn from the city government and various public commissions and professional and business organizations, in such a way that every interest likely to be able to furnish useful suggestions was represented. Money for the work was raised by a tax of one-fourth of a mill on the dollar in 1910.

The services of Virgil G. Bogue, who prepared the plans for the city of Seattle, were secured together with a large staff of coworkers. As a result of this work the city has been provided with a plan for its development along lines which are theoretically correct. The basic principles upon which the work has been conducted are unlike the usual city planning schemes, which pay attention to nothing but artistic considerations. The plans provide in the first place for a civic center, where all the municipal offices can be assembled at a point readily reached from most parts of the city, and which affords an opportunity for the erection of buildings of a character which will be suitable for the dignity of such an important community with the proper treatment of the grounds and avenues about them. A system of arterial highways has been laid out, and although the topographical conditions made it impracticable to use circumferential streets connecting the radial thoroughfares running out from the business center, a substitute for them has been found in diagonal streets, a solution of the street problem which is decidedly instructive. — *Engineering Record.*

DETAIL FOR HEARST BUILDING, CHICAGO.
Northwestern Terra Cotta Company, Makers.
James C. Green, Architect.

PALACE OF VERSAILLES.

RECENT excavations have thrown considerable light on the original architecture of the famous palace of Versailles. A number of underground passages dating from the time of Louis XIII, and carefully lined with slabs of stone, have been laid bare. An astonishing fact is that the foundations are very shallow without cellars and laid on a very light and unstable bed of sand. Large underground walls have been discovered also, which do not sustain any weight but which connect and keep in position the various parts of the building. These excavations will shortly be described and discussed by a prominent French architect who claims that he is now able to reconstruct the plans of the original exterior, none of which now remain.

APARTMENT, RIVERSIDE DRIVE, NEW YORK.
Architectural terra cotta furnished by South Amboy Terra Cotta Company.
Rouse & Goldstone, Architects.

TO BEAUTIFY LONDON.

AN ORGANIZED movement has been instituted for the beautification of London through the combined efforts of artists, architects, sculptors, engineers, members of Parliament, citizens, etc. This new organization is called the "London Society." Its motives are to interest Londoners in their own city; to support rather than hinder practical and esthetic schemes; and to add to the existing beauties of London until she becomes artistically worthy of her position as the capital of the world's greatest empire.

WORKS OF ART TO ADORN PANTHEON, PARIS.

A SERIES of sculptures by prominent French artists will be placed in the Pantheon. The vast empty hall will present an appearance more in keeping with the purpose to which it has been dedicated since the French Revolution. The statues will represent the country's great men.

Rodin will contribute a statue of Victor Hugo. Bartholomé is at work on a monument to Jean-Jacques Rousseau. Injalbert and Segoffin will be represented by figures of Mirabeau and Voltaire. Rodin's group "The Burghers of Calais," a replica of which was recently erected in Calais, will also find a place in the Pantheon. Around the central pillars will be allegorical figures, representing different epochs of art, by other leading sculptors.

THE Villa d'Este, one of the most beautiful in all Italy, will become the Austrian Academy of Fine Arts, conducted on lines similar to those of the French Villa Medici. While this assures us that the magnificence of the Villa will be kept up, we cannot help but regret the fact that it will be practically impossible for visitors to obtain access to this historic and artistic place.

CAPITAL BY JAMES KNOX TAYLOR, ARCHITECT.
Executed by New York Architectural Terra Cotta Company.

THE ancient frescoes by Francesco Bachiacca have been recently discovered in the Palazzo Vecchia at Florence. These frescoes commissioned by the Duke Cosimo Medici have been uncovered and found to be practically as fresh as when first executed by the artist. An excellent fresco of the sixteenth century on the façade of the Municipal Palace, Viterbo, has also come to light as well as a delicately carved window of the twelfth century.

DETAIL, ADOLPHUS HOTEL, DALLAS, TEXAS.
Winkle Terra Cotta Company, Makers.

THE committee in charge of the Francis J. Plym Fellowship in Architecture announces the second competition for the award of this Fellowship. The value of the Fellowship is one thousand dollars providing one year of travel in Europe for the study of architecture. The competition will be held in the months of April and May, 1912, and will be open to all graduates of the Department of Architecture of the University of Illinois who will be under thirty years of age on the first day of June, 1912. Further particulars may be obtained by addressing Professor Frederick M. Mann, Department of Architecture, University of Illinois, Urbana, Ill.

CITY NORMAL SCHOOL, CLEVELAND, OHIO.
Faced with Roman brick made by The Ironclay Brick Company.
Frank S. Barnum, Architect.

TERRA COTTA FOR THE VANDERBILT HOTEL.

THE architectural terra cotta for the Vanderbilt Hotel, New York, Warren & Wetmore, architects, described in this issue, was furnished by the New Jersey Terra Cotta Company.

THE old Continental Hotel at Broadway and 20th street, New York, one of the

GLEN RIDGE VILLAGE STORES, GLEN RIDGE, N. J.
Built of Natco Hollow Tile and faced with brick. Boring & Tilton, Architects.

best known mercantile houses in the city, has been sold and will soon be replaced by a twenty-story loft and office building.

IN GENERAL.

The leading face brick manufacturers of the country met in convention at Chicago, March 8th, and organized the National Face Brick Association, with J. M. Adams of Columbus, Ohio, as president. This organization will be composed exclusively of the manufacturers of face brick. It is the sole purpose of the organization to deal with freight rates, express charges, and other important matters which have to do with the handling of brick from factory to consumer.

The apartment house, Park avenue, New York City, Walter B. Chambers, architect, illustrated on Plate 29 of this issue, was awarded the gold medal for 1911 by the American Institute of Architects.

The bricks used in the body of the Hotel Vanderbilt are French gray in color, the face being veneered on to a buff gray body. No attempt was made to select them according to shade, and as a result a pleasing variety is shown in the walls. In the upper stories white bricks were used in connection with the terra cotta. On the westerly walls two panels extending about fifteen stories were constructed entirely in headers of the gray shade. The bricks were furnished by Carter, Black & Ayers, of New York.

The New York Architectural Terra Cotta Company will furnish dark limestone terra cotta for the new twenty-story store and loft building to be erected at the corner of 26th street and Fourth avenue, New York, Neville & Bagge, architects.

C. C. Tallman, architect, has opened an office at 17 Dill street, Auburn, N. Y., and would be glad to receive manufacturers' catalogues and samples.

It is proposed by the Philadelphia Chapter, A. I. A., to invite persons of authority to address the Chapter on real estate investments, settlements, mortgages, transfers, lien laws, insurance, and other related subjects, — the purpose being to establish a closer relationship between architect and owner.

HOUSE AT CHICAGO.
Roofed with Green Tile made by Ludowici-Celadon Company.
W. C. Zimmerman, Architect.

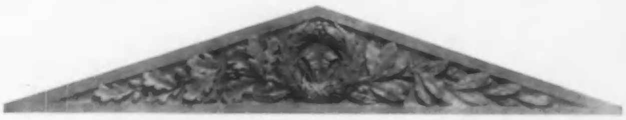
The Second Annual Architectural and Engineering Exhibition, which was to have been held in New York, March 25th to 30th, has been merged, and will be held in conjunction with the New York Fire Exposition and International Conference, which will be held in the Seventy-first Regiment Armory, New York City, October 2d to 12th.

The Western Brick Company, Danville, Ill., has issued an attractive booklet in which they treat of the product of their plant, which is said to be the largest brick plant in the world. Supplementing this booklet are twenty illustrations — post-card size — of prominent buildings in which their brick have been used. The whole work is very attractively gotten up.

The Fourth Annual Convention of the Texas State Association of Architects was

PASSENGER STATION FOR N. Y. C. & H. R. R., HASTINGS-ON-HUDSON, N. Y.
Built of Tapestry Bricks manufactured by Fiske & Co., Inc.
Reed & Stem, Architects.

held at Forth Worth, November 13th to 15th. The association has issued a printed report of its proceedings, and also a pamphlet in which architectural competitions are dealt with. The secretary of the association is E. Stanley Field, Fort Worth, Texas.



DETAIL BY FRANK G. PIERSON, ARCHITECT.
O. W. Ketcham Terra Cotta Works, Makers.

Cunningham & Politeo, architects, San Francisco, announce the removal of their offices to the First National Bank Building, San Francisco.

Building operations of Chicago for 1911 broke all previous records. The number of buildings erected was 11,106, having a frontage of 299,032 feet, costing $105,269,700.

The tile used upon the exterior and interior of the house at Brookline, illustrated on Plate 42, was furnished by the Grueby Faience & Tile Company.

School of Architecture

HARVARD UNIVERSITY

Summer Courses in Architectural Design

For circular giving details with regard to these courses, apply to Professor H. L. Warren, Chairman of the Department of Architecture, Harvard University.

OLD PARIS

ITS BUILDINGS AND THEIR DETAILS

Edited by
EGON AND WALDEMAR HESSLING

Second Série: Early Renaissance (Style Louis XII and Francis I) with a study of the Chateau de Gaillon and the Maison François I de Moret.

Façades, entrances, windows, cornices and beautiful details of carved stone work: pilasters, friezes, panels, etc.

60 plates of illustrations in heliotype

Descriptive illustrated text in French or German

One volume, in portfolio, size 13 x 16½ inches. $20.00

THE BRUNO HESSLING COMPANY

64 East 12th Street, NEW YORK, N. Y.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.

Westfield, Mass. New York
Philadelphia Boston

"TAPESTRY" BRICK

TRADE MARK—REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of THE BRICKBUILDER

House at Prides Crossing, Mass. ... Plates 33, 34
GEORGE C. WALES, Architect.

House at Beverly Farms, Mass. ... Plates 37–40
PARKER, THOMAS & RICE, Architects.

Two Restaurants at Newark, N. J. ... Plate 41
HUGHES & BACKOFF, Architects.

Passenger Station at Hastings-on-Hudson, N. Y. ... Page 87
REED & STEM, Architects.

FISKE & COMPANY INC
FACE BRICKS / FIRE BRICKS
ESTABLISHED IN 1864

25 Arch St., Boston Arena Building, New York

Linoleum and Cork Covering

FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.
Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:
Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.

Floor Coverings — Wholesale and Retail

646-658 WASHINGTON STREET - BOSTON, MASS.

Continuously in this business for 93 years